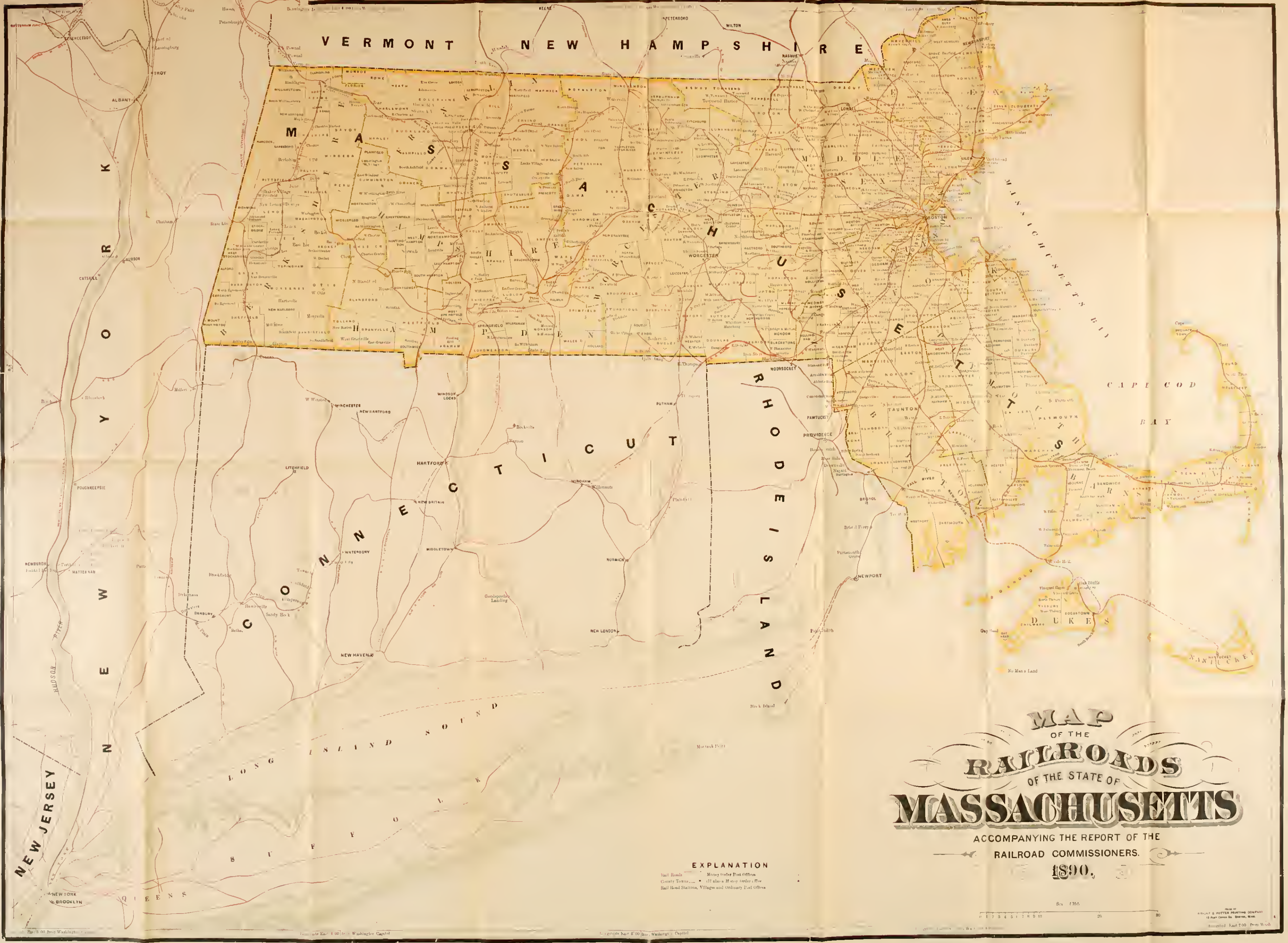
UMASS/AMHERST
312066016639835

Digitized by the Internet Archive
in 2010 with funding from
Boston Library Consortium Member Libraries

http://www.archive.org/details/annualreportofbo1890mass



MAP OF THE RAILROADS OF THE STATE OF MASSACHUSETTS

ACCOMPANYING THE REPORT OF THE RAILROAD COMMISSIONERS.

1890.

EXPLANATION

Rail Roads ——— Money Order Post Offices ·

County Towns ■ (if also a Money Order office ■)

Rail Road Stations, Villages and Ordinary Post Offices

PRESS OF
WRIGHT & POTTER PRINTING COMPANY
18 Post Office Sq. Boston, Mass.

PUBLIC DOCUMENT. No. 14.

TWENTY-SECOND ANNUAL REPORT

OF THE

BOARD OF RAILROAD COMMISSIONERS.

JANUARY, 1891.

BOSTON:
WRIGHT & POTTER PRINTING COMPANY, STATE PRINTERS,
18 Post Office Square.
1891.

385
M38
1890

CONTENTS.

PAGE

INDEX TO REPORT, ... v

REPORT, ... 3

APPENDIX:

A. — Report on Fenders for Electric Cars, ... 65

B. — Special Reports on Accidents, ... 95

C. — Grade Crossings, ... 162

D. — Exigency for new Branches or Extensions, ... 206

E. — Station and Train Accommodation, ... 218

F. — Heating Passenger Cars on the several Railroads, . . 227

G. — Street Railways — Increase of Capital Stock, Issue of Mortgage Bonds, etc., ... 231

H. — Brake Power on Electric Cars, ... 238

I. — Tabular Statement of Accidents, ... 242

J. — Miscellaneous, ... 254

K. — Receipts of Grain in Boston, ... 257

L. — Expenses of Office, ... 261

TABULATED STATEMENT OF RAILWAY AND RAILROAD RETURNS, . 263

Contents of Tables, ... 264

INDEX.

Abolition of grade crossings, 12.
Abstract of street railway returns (*see contents of Tables*, p. 264).
  railroad returns (*tabulated alphabetically, see contents of Tables*, p. 264).
Accidents, statistics of, in Massachusetts, 43–49, 242–252.
  in United States, 253.
  to passengers during the year, 43, 44.
  to employees, 43, 44.
  at highway crossings, 43, 45.
  to trespassers, 44, 45.
  comparative number of, on different roads, 46.
  ratio of, to number of passengers carried, 46–48.
  tabular statement of, for year, 242–252.
    for ten years, 249–252.
  special reports on, 95.
  train, on Boston & Maine Railroad, near Winter Hill station, 103.
    on Old Colony Railroad, Providence Division, 110.
      at Quincy, 113.
      at Yarmouth, 157.
  on street railways, 63, 286.
Annual returns of railroads, tabulated statement compiled from, 296–326.
  tabulated comparative results compiled from, 328–332.
  of street railways, abstracts of, 270–292.
Appliances for safety of employees, 26–41.
Assets and liabilities of railroads (*see Abstract of returns of the several roads in Tables*).
Assets and liabilities of street railways (*see Abstract of street railway returns in Tables*).
Attleborough, North Attleborough & Wrentham Street Railway Company, increase of capital stock of, 231.
Automatic couplers (*see Couplers*).
Baggage cars, number of, 61.
  cost of repairs of, per train mile (*see Tables*).
Beverly and Danvers Street Railway Company authorized to use tracks of Naumkeag, 235.
Bell ropes on trains a delusion, 34.
Blocking frogs and switches, 11.
Board of Railroad Commissioners, members of, 261.

Boston, need of means for rapid transit in, 39.
Boston, receipts for grain in, for ten years, 257–260.
Boston & Albany Railroad, cars on, heated by steam from locomotive, 10, 217.
ratio of passengers injured to whole number carried, 48.
additional trains on Milford Branch of, 43.
Boston & Maine Railroad, ratio of passengers injured to whole number carried, 48.
fatal accident on, at Wellington station, 105.
train accident on, near Winter Hill station, 113.
Brake power on passenger trains, 40, 130.
on electric cars, 238.
Brakes, continuous freight-train, use of, should be required, 40, 41.
special report on, 136.
Bridges, cost of repairs of, per train mile, 59, 330.
report of Professor Swain, bridge engineer, on, 16–22.
statistics concerning, 17, 19, 21.
Business, volume of, on railroads, 56.
Cambridge, application of, for Board to prescribe details of crossing of Front Street over Boston & Albany Railroad, 15, 175–195.
Capital (*see Stock*).
Cars owned by railroads, 61.
by street railways, 63.
methods of heating, on the several railroads, 10, 227–230.
cost of repairs of, per train mile, 59.
per car (*see Tables*).
Comparison of statistics of 1889 and 1890, 334.
for seven years, 336.
Connecticut River Railroad, ratio of passengers injured to whole number carried, 48.
grade crossing of, at Holyoke, 173.
exigency for branch in Holyoke, 217.
Construction of railroads during year, 50.
cost of, per mile owned, 50.
Cost of railroads, 50.
per mile owned, 50.
of street railways, 63.
of operating, 55.
of running trains on leading roads of Massachusetts, 59.
Couplers, automatic, for freight cars, 26, 45, 260.
action taken to secure the adoption of, 26–29.
biennial examination of, 33.
Master Car Builders' type of, objections to, 31.
Congress should take action to secure adoption of, 32.
Coupling or uncoupling cars, accidents from, 26.
Crossings, highway, at grade, number of, in the State, 12.
abolition of, 12.
law of 1890 to promote, 12, 13.
action taken under the law, 14.
accidents at, 45.
(*See Grade Crossings.*)

Debt of railroads in Massachusetts, 51.
  comparative statement of, for seven years, 52.
  per mile owned (*see Tables*).
 of street railways, 62.
  per mile of track (*see Tables*).
Deficit or surplus of railroad companies (*see Tables*).
  street railway companies (*see Tables*).
Dividends of railroads, 55 (*see Tables*).
  statistics of (*see Tables*).
  amounts paid during ten years, 55.
 of street railways, 62.
Double track, miles of, 50 (*see Tables*).
Driver brakes and train brakes should be operated by same handle, 131.
Earnings of railroads, 52, 54.
  per mile of road, 54.
  per train mile on leading roads in Massachusetts, 58.
 of street railways, 63.
East Side Street Railway Company, issue of bonds by, 232.
  authorized to use tracks of Brockton Street Railway, 236.
Electric cars, report on fenders for, 65.
Electric motive power on street railways, experiments in stopping cars moved by, 34.
Employees, need of adoption of appliances for safety of, 33.
 number of, on railroads, 62.
  on street railways, 63.
 injuries to, statistics of, 43–48, 251, 253.
Equipment of railroads, 61 (*see Tables*).
  cost of, 50.
   per mile of road owned (*see Tables*).
 street railways, 63.
   cost of, 63 (*see Tables*).
Essex Electric Street Railway Company, issue of mortgage bonds by, 235.
Exigency for new branches or extensions, 206–217.
Expenses, statistics of railroad (*see Tables*).
 per train mile, 58.
 per mile of road operated (*see Tables*).
 per cent. of, to earnings, 55 (*see Tables*).
 of street railways, 278–280 (*see Tables*).
 of office of commission, 261.
Fares, average, on leading roads in Massachusetts, 60.
 on street railways, 63.
Fenders on street railway electric cars, 35–37.
 special report on, 65.
Fitchburg Railroad, ratio of passengers injured to whole number carried, 48.
  correspondence relative to a grade crossing of, in Somerville, 167.
Freight, tons of, carried on railroads, 57.
 average rates of, on leading roads in Massachusetts, 60.
 average distance carried, 57.
 tons of, carried per train mile (*see Comparative Tables*).

Freight cars, number of, 61.
  train brakes on, 40, 41.
  cost of repairs of, per train mile, 59.
    per car (*see Comparative Tables*).
Freight-couplers and draw-bars, action of convention of Railroad Commissioners relative to, 27.
  circular of Michigan Commissioner concerning, 28.
  action of Vanderbilt system relating to, 30.
  action of New England Railroad Club concerning, 30.
  Interstate Commerce Commission on, 32.
Freight earnings, 54.
    per train mile, 58.
  expenses per train mile (*see Tables*).
Freight mileage, statistics of, 57.
Freight-train brakes, should be adopted, 40.
Freight rates, average, on railroads, 60.
Fuel, cost of, per train mile, 59, 330.
Grade crossings of railroads, public, number of, 12.
  number abolished, 12.
  abolition of, law to promote, 12, 13, 203–205.
  accidents at, 45.
  reports and other papers relating to, 162–205.
  in Lynn, no action taken to abolish, 14.
Grade crossings of highways by tracks for private use, 201.
Grain, receipts of, in Boston, for ten years, 257–260.
Graustein Brothers, petition of, for milk transportation on Boston & Maine Railroad, 220.
Harmony in the regulation of railroads by the several States and Congress, important, 22.
Heating passenger cars, 9–11.
  by steam from locomotive, progress of, 11.
    information concerning, received from railroads, 227.
Heating, outfit of cars on the several railroads, 11,227.
  by heaters or stoves prohibited in New York, 12.
Highway crossings (*see Grade Crossings*).
Holliston and Milford, additional trains to and from, on Boston & Albany Railroad, 43.
Horses owned by street railway companies, 63.
  renewal of (*see Tables*).
Hull, winter transportation for, 225.
Income of railroads, 52, 54.
    per mile operated (*see Tables*).
    per train mile, 57, 58.
    net, 52.
  street railways, 63, 282.
    per mile operated (*see Tables*).

Interest, accrued, statistics of (*see Tables*).

Interstate Commerce Commission and appliances for cars used in interstate commerce, 32.

Investments, permanent, of railroads, statistics of (*see Tables*).

Legislation of 1890 relative to railroads, 42.
    recommendations as to, 42.

Locomotives, cost of repairs of, per train mile, 59.
        per locomotive (*see Tables*).
    number of, 61.

Lowell, obstruction of Middlesex Street in, by Boston & Maine Railroad, 172.

Lowell & Dracut Street Railway Company, increase of capital stock of, 231.

Lynn Belt Line Street Railway Company, increase of capital stock of, 82.
    issue of bonds by, approved, 83.

Mail and baggage cars, number of, 61.
    cost of, per train mile (*see Tables*).

Mails, receipts from (*see Tables*).

Maintenance of way, etc., cost of, per train mile, 59, 330.

Manet Street Railway Company, increase of capital stock of, 234.

Massachusetts, accidents in, 43.

Mileage, freight and passenger, 54.
    of railroads, 50.
    of street railways, 63.
    train, expenses, 59.

Miles run on railroads, statistics of, 57.
    average, travelled by passengers, 56.
        freight carried, 57.
    run on street railways, 63.

Milford & Hopedale Street Railway authorized to cross Milford & Woonsocket Railroad, 236.

Nantucket Electric Street Railway Company, increase of capital stock of, 233.

Naumkeag Street Railway, issue of mortgage bonds by, approved, 232.

Newburyport & Amesbury Horse Railroad Company, reduction of capital stock of, 233.

Newburyport & Amesbury Horse Railroad Company, issue of mortgage bonds by, 234.

New York & New England Railroad, ratio of passengers injured to whole number carried, 48.

New York & New England Railroad, petition for certificate of exigency for a branch dismissed, 208.

Northampton, petition for a change of location of railroads in, 218.

Oil and waste, cost of, per train mile, 59.

Old Colony Railroad, ratio of passengers injured to number carried, 48.
    exigency for extension of Milton Branch of, 206.
    exigency for extension of Wrentham Branch to Dedham, 214.
    accident on, near Chickering station, 120.
    accident on, at Yarmouth, 167.
    petition of, for a grade crossing refused, 196.

Operating expenses, percentage of, to gross receipts, 55.
    to transportation earnings (*see Tables*).

Operation of railroads, cost of, per mile, 55.
per train mile, 59.
Passenger cars, cost of repairs of, per train mile, 59.
number of, 61.
heating of, 9–11, 227.
expense of repairs per car (*see Tables*).
Passenger earnings, 54.
per train mile, 58.
fares, statistics of, 60.
mileage, statistics of, 56.
Passenger and freight facilities, reports on, 218.
Passenger trains, miles run by, 54.
Passengers, number carried on railroads, 56 (*see Tables*).
one mile, 56.
per train mile (*see Tables*).
on street railways, 63.
average distance travelled by, 56.
accidents to, 43, 44, 47, 242.
Permanent investments of railroads, 51.
per mile of road owned (*see Tables*).
of street railways, 62.
way (*see Way*).
Personal injuries, amount of damages paid for (*see Tables*).
Plymouth & Kingston Street Railway Company, issue of bonds by, 233.
Power brakes on freight trains, 41.
Railroad Commissioners, names of, 261.
Railroad construction, 50.
opening of new, 242.
Railroad corporations, number of, 50.
Railroad legislation of the several States and United States, importance of greater harmony in, 22-26.
Railroads of Massachusetts, condition of bridges of, 15–22.
construction of, during the year, 50.
statistics of, 50–62.
number of, 51
length of, 50, 296.
miles operated (*see Tables*).
capital stock of, 51.
stock, debt and cost per mile owned, 52 (*see Tables*).
debt of, 51, 52.
cost of, 50.
expenses of, 55.
earnings of, 52, 54.
comparative, for ten years, 54.
permanent investments of, 52.
per mile owned (*see Tables*).
dividends of, 55.
cost of operating, 55.
cost of operating, per train mile, 59.
income of, 54.

Railroads of Massachusetts, amount of business of, 56.
  average fares on, 60.
  average freights on, 60.
  equipment of, 61.
  grade crossings of, 12.
  employees on, 62.
  accidents on, 43–49, 242.
  double track, etc., on (*see Tables*).
  total assets and liabilities of (*see Tables*).
Rails, cost of renewal of, per train mile, 59, 330.
  steel, miles of, 61.
Railways (*see Street Railways*).
Rates, passenger and freight, average for six years, 60.
Recommendations of the Board, compliance and non-compliance of railroad companies with, 43.
Repairs of railroads, cost of, per train mile, 59.
  of cars, average cost of, per car (*see Tables*).
  on street railways (*see Tables*).
  cost of, per locomotive, passenger and freight cars (*see Tables*).
Returns, railroad, in tabular form, arranged alphabetically (*see contents of Tables*, p. 264).
  comparative tables compiled from (*see contents of Tables*).
  street railway, tabular abstract of, 170.
Road (*see Way*).
Road-bed, cost of repairs of, per train mile, 59, 330.
Rolling-stock, amount of, returned for seven years, 61.
  statistics relating to (*see Tables*).
Salaries and general office expenses of street railways (*see Tables*).
Salaries, wages, etc., per train mile (*see Tables*).
Separation of grades, proceedings for, 14.
South Hanson, petition for stopping certain trains at, 219.
Springfield Street Railway Company, increase of capital stock of, 231.
Station and train accommodations, reports on petitions for, 218–226.
Stations, accidents at, 45, 250.
Steel rails, miles of, 61.
  expenses for new (*see Returns of railroads respectively*).
Stock of railroads, amount of, 51.
  per mile of road owned (*see Tables*).
  dividends on, 55 (*see Tables*).
  of street railways, amount of, 62, 270.
    increase of, authorized, 63, 231.
    per mile owned (*see Tables*).
    dividends on, 62.
Street railway companies, new, certificates for charter issued to, 237.
  use of electric motive power by, 39, 64.
  amount of increase of stock authorized, 63.
  amount of mortgage bonds authorized, 64.
Street railways, statistics of, 62–64, 270–293.
  number of, 62.
  capital stock of, 62.
  debt of, 62.

Street railways, debt per mile of road owned (*see Tables*).
    land and buildings of (*see Tables*).
    cash assets (*see Tables*).
    length of, 63.
    number of stockholders (*see Tables*).
    cost of, 63.
        per mile owned, 63.
        per mile operated (*see Tables*).
    income of, 63.
        per mile operated, etc. (*see Tables*).
    expense of operating, 63.
        per mile operated, etc. (*see Tables*).
    cost of carrying each passenger, 63.
    interest accrued (*see Tables*).
    dividends of, 62.
    equipment of, 63.
    miles of, operated by electricity, 64.
    car mileage on, 63.
    number of passengers on, 63.
        greater than on steam roads, 63.
        per round trip (*see Tables*).
    number of trips on, 63.
        of employees on, 63.
    abstract of accidents on (*see Tables*).
    electric, 64.
        dangers of, 34.
    reports on petitions for increase of stock of, etc., 231–235.
Summary of returns of 1888 and 1889, 334.
    for seven years, 336.
Surplus or deficit of railroad companies (*see Tables*).
Tables, statistical, from railroad returns, 296–336.
    from street railway returns, 270–292.
Taxes (*see Abstract of returns*).
Track of railroads, length of, 50, 52 (*see also Tables*).
    cost of repairs of, per train mile, 59.
    accidents to persons walking on, 3 (*see Trespassers*).
    used as foot-way, 6, 7.
Traffic expenses, per train mile, 59.
Train accidents, 248 (*see special Reports on Accidents*).
Train brakes for freight cars, 40, 41.
    national legislation concerning, recommended, 8.
    requisites for efficiency of, 9, 10.
Train mile, expenses per, 59.
    earnings per, 58.
    earnings and expenses per, statistics of (*see Tables*).
    standard, average cost of, 59.
Train mileage, 61 (*see Abstract of returns*).
Trains, cost of running, 59.
Transportation earnings and expenses, statistics of (*see Tables*).
Trespassers, accidents to, in Massachusetts, 3.
    measures taken to prevent, in England and Germany, 4, 5.

Trespassers, the law to prevent accidents to, should be made more efficient, 8.

United States, statistics of accidents in, 253.

Uxbridge, better station accommodation on Providence & Worcester Railroad provided, as recommended, 43.

Uxbridge, petition for a station on New York & New England Railroad at Jackson's crossing, 219.

Wages (*see Salaries*).

Waste, cost of, per train mile, 59.

Way, permanent, cost of maintaining, per train mile, 59, 330.

  of street railways, cost of, 63.

   repairs on, cost per mile operated (*see Tables*).

West End Street Railway, accidents on, 37, 38.

  fatal accident to Geo. H. Bradford on, 99.

Whistling of locomotives, petition for prohibition of, 162.

Part I.

COMMISSIONERS' REPORT.

Commonwealth of Massachusetts.

The Railroad Commissioners respectfully submit their twenty-second annual report.

WALKING ON THE TRACKS.

The number of trespassers killed in Massachusetts during the past year was 119, and 80 more were injured, making a total of 199 killed and injured. Of this total, 158 were walking on the tracks and 41 were stealing rides on freight trains. These figures do not include any employees who, while on the tracks, were struck by trains, but only cover those persons who were upon the tracks without right.

The relative importance of this subject can best be appreciated by comparing the number of fatalities to trespassers with the number of persons killed in other ways in the operation of our railroads. The number of persons killed at all our very dangerous grade crossings during the year was 18. There were, therefore, more than six times as many trespassers killed on the tracks as there were persons killed at grade crossings. In the confusion and crowd, and peculiar dangers at stations, 7 persons were killed; the number of trespassers killed was seventeen times as great. The roads making returns to our Board carried on all their lines, in and out of the State, ninety-nine millions of passengers last year. Of these passengers, 38 were killed within this State. Three times as many trespassers were killed while on the tracks without right. In the running of trains we insist that every possible danger should be reduced to a minimum, and yet we put no effectual obstacle in the way of those people who unnecessarily expose themselves to a danger many times greater than that of riding in a car.

The number of trespassers killed is three times as great as the number of passengers killed. This, however, does not indicate the relative danger of trespassing on the tracks and riding in the cars. This can only be determined by finding what proportion the number of trespassers bears to the number of passengers, and what relation the average time which they are on the track bears to the average time that passengers occupy the cars.

There are about 40,000 employees of the roads making returns to the Board, and of these, in all their various peculiarly dangerous occupations, 68 were killed within this State. The number of trespassers killed was 119. So excessively dangerous is this trespassing on the tracks that the number of trespassers killed, on the average, is about equal to the whole number of persons killed, whether employees, passengers or the public, in other ways in the operation of our railroads.

It must not be inferred that the intent of these comparisons is to depreciate in any way the importance of the abolition of grade crossings, of the improvement of station arrangements, of road bed and of equipment, and of the exercise of the greatest care and skill in railroad operation. The intent is simply to direct attention to the fact that, of all the classes of accidents on railroads, there is none so large as this one, and that humanity demands a remedy, if a remedy is possible.

One hundred and nineteen trespassers were killed, and 80 were injured. It will be noticed that the percentage of those killed to the whole number of accidents is very large. Sixty per cent. of the whole number of accidents to trespassers are fatal accidents. If a person walking on the track is struck by a train, the probability is that he will be killed. Most of those who are not killed are crippled for life. The condition of affairs in other States is much the same as in Massachusetts.

To prevent this loss of life is not impossible. As compared with its importance, it is not difficult. In England and Germany better results are obtained. Whereas, in Massachusetts, one trespasser every year is killed or injured for each ten miles of railroad, in England the statistics show only one killed or injured for each fifty miles of railroad. The trains in England are more frequent than in Massachusetts, and yet five times as many persons per mile of track are killed in Massachusetts as are killed in England. In Germany, although there are twice as many grade crossings per mile of railroad as in Massachusetts, and though the means of access to the tracks must thereby be largely increased, the number of accidents to trespassers is so small that they are not separately classified. They are included with accidents at grade crossings and accidents at stations, and, from the figures given for this comprehensive class, it is safe to say that in Germany the accidents to trespassers on the basis of miles of track are not more than one-tenth as many as in Massachusetts. In other words, if accidents to trespassers were no more frequent in Massachusetts than in Germany, instead of having two hundred accidents per year, we should have only about twenty.

In England the platforms at stations are elevated above the track, so that there is no convenient way for people to get down on the tracks. The station grounds are carefully enclosed, so that access to the tracks in the vicinity of the station is difficult. Grade crossings are carefully guarded; and, what is most important of all, if a person is found walking on the tracks, he is immediately arrested.

Of the conditions existing in Germany, Professor Goering, in his paper embodied in the report of this Board, issued in 1889, made the following statement: —

> In Germany it is not only generally looked upon as an offence, and known to be punishable, to enter upon property belonging to another, but it is strictly forbidden to enter without permission upon the right of way of railroads outside of grade crossings and station platforms, or to cross the tracks at grade crossings, if the gates are closed. Offences of this kind are severely punished. Everybody in Germany, therefore, from childhood up, knows that he runs a great danger, and renders himself liable to a considerable fine, by going onto the right of way, or upon the tracks; or by undertaking, after leaving a train, to go diagonally across the station or along between the tracks, instead of taking the prescribed exit from the station platform to the street. Every brakeman, station employee or flagman has in such cases the right, as a member of the railroad police, to arrest the offender at once, and to conduct him to the nearest police station, unless the offender is able to give satisfactory proof of his identity, and to deposit security equivalent to the amount of the fine to which he is subject.

Such are the means taken in England and in Germany to prevent walking on the tracks. In Massachusetts practically no obstacles are placed in the way of those who desire to use this peculiarly dangerous footway. It is not difficult here to get on the tracks; it is very easy and convenient to do so. Our station platforms are on, or nearly on, a level with the tracks; our station grounds are generally open at both ends of the station and on both sides of the track. As a rule, anybody at any time can enter upon the tracks anywhere along the line of any railroad, as well at a grade crossing protected by gates or a flagman as anywhere else, and can walk on the tracks where and so long as he pleases.

Walking on the tracks is forbidden by law. Section 195 of chapter 112 of the Public Statutes reads as follows: "Whoever without right knowingly stands or walks on a railroad track, shall forfeit not less than five nor more than fifty dollars." This law for years has practically been a dead letter. From time to time spasmodic efforts to enforce it have been made, but no persistent and continued effort, and the railroad companies generally have given up the attempt.

To kill a person on the track is both disagreeable and inconvenient. Trains are delayed, and there is some trouble and expense connected with the care of the corpse, but no damages can be recovered. The pecuniary loss resulting to the railroads from the killing and maiming of trespassers is not material. On the other hand, the companies have found that their efforts to secure a conviction of a trespasser under the law are attended with considerable labor and expense, are generally failures, and not infrequently are followed by retaliatory measures, such as the destruction of their property by fire or otherwise, and the placing of obstacles on their tracks. They can hardly be blamed for coming to the conclusion that their duty to the public as well as to themselves demands that they should not undertake the very dangerous task of enforcing the law, when the chief object of such enforcement is simply to save people from losing their lives and limbs in doing that which they have no right to do.

As a matter of fact, our railroads are becoming footways as well as trainways. Nobody seriously claims that the public has a right to use the tracks as a footway. The location of a railroad has been taken and paid for, for the exclusive use of the railroad. The public has no more right to walk on the location of a railroad than it has to travel over the land of an individual.

About a year ago, a member of the Board, in coming from Beverly to Boston on the train leaving Beverly at 4.10 P.M. and arriving in Boston at 5.05 P.M., counted 100 trespassers on the track. Of these, 63 were men, 5 were women and 32 were children. People on the tracks at crossings and at stations were not counted, and none were counted as trespassers unless it was obvious that they were not trackmen. Some of the children were walking, while others were playing, on the tracks. Two or three other counts made on portions of the road between Boston and Salem indicated a still larger number of trespassers. It will be noticed that the count was made in the middle of the afternoon. There were probably more people on the tracks then than there would be in the middle of the forenoon, but by no means as many as at the beginning, the end and the middle of the day. Assuming that the condition of affairs between four and five o'clock represented an average condition of the tracks, and that each one of these trespassers would average ten minutes on the track, then in an hour there would be six times 100 or 600 trespassers on the tracks between Boston and Beverly, or, in a day of ten hours, 6,000 persons walking on the track at some point between Boston and Beverly, without right. It seems not improbable that, on the eight lines of railroad running into Boston, and within a radius of twenty miles, there are on pleasant days as many as 40,000 people using the tracks as a footway, without right. This use is not confined to the vicinity of the city of Boston. It prevails throughout the Commonwealth, and in many places is more general than in the vicinity of the city of Boston.

The number of trespassers killed and injured is increasing. The record is as follows: —

1879,	82	1885,	152
1880,	112	1886,	159
1881,	126	1887,	193
1882,	132	1888,	196
1883,	147	1889,	197
1884,	161	1890,	199

It seems strange that such an annual slaughter should be permitted without strenuous efforts being made to put an end to it. A brief statement that a man or a woman or a child has been killed on the tracks is generally all that appears in the daily papers. On the day, however, when this portion of the report was written, the newspapers contained the following more extended account of the killing of two young women while walking on the tracks in Somerville: "They were struck from behind by the engine of the inward-bound passenger train, and horribly mangled, death resulting instantly. One had her head split almost in twain, and her body terribly mangled. The other unfortunate girl's head was torn clean from her body, and thrown a distance of fifty feet, while the body was hurled in another direction. One leg was also cut off."

If in the operation of our railroads any element of danger should exist which should on the average cause a single accident a year, resulting in killing or maiming 200 persons, a howl of execration would be raised, not only in this State, but all over the country, against all those who were in any way responsible for the accident; and the public would demand that, no matter what the expense might be, such measures should be taken as should render impossible the recurrence of a similar catastrophe. The extreme power of the State would be exercised if necessary, and neither cost nor public convenience would be allowed to stand in the way.

The magnitude of this evil is not appreciated, because the victims are generally picked off one by one. It is seldom that two even are killed at the same time. The people who suffer are generally working men or women, not people who are known to the public. Not infrequently they are immigrants who have just arrived, and without a relation or a friend in the country are seeking occupation. Whoever the person is, nobody is disposed to make much talk about the matter. There is no ground for action or complaint against the railroad company. The victim was doing that which he had no right to do, and his death was not the fault of the railroad, but his own fault.

For these reasons, the public conscience has not been aroused. It is therefore peculiarly the province of this Board to continue to call attention to the subject, until remedial measures are adopted. It is a question between taking means to preserve life, and negligently permitting the destruction of life; and yet the experience of the Board has shown that it is by no means an easy thing to secure the adoption by the Legislature of provisions calculated to prevent this form of trespassing.

The number of people who unlawfully use the tracks as footways is so great that it is difficult to overcome their definite opposition to any laws calculated to restrain, limit or prevent their acts of trespass. It must be remembered, however, that trespass is not justified because it is convenient, any more than stealing would be justified for a similar reason. The people who find walking on the tracks convenient, ought not to ask that such convenience be continued to them at the cost of 120 lives per year. If they can only be led to appreciate how terrible is the annual slaughter, they will not ask that their convenience shall be consulted. We earnestly pray, therefore, that the statute prohibiting trespassing may be amended so as to be more efficient. Inasmuch as the police have been blind to this kind of unlawful act, and have permitted it without interference on their part, the most ample notice should be given to the public that trespassing on railroad tracks will be punished as provided by law, and effectual means must be adopted to secure the enforcement of the law. The object of the Board is to save life; it is not to interfere with the convenience of the public. If the public convenience requires a footway along the line of a railroad, such footway should be provided; but it should be a safe footway, and should not be laid out on the road-bed of the railroad. The expense of laying out footways at the side of the location of a railroad would generally be small. The statutes give cities and towns the authority to provide footways for the use of the public in the manner provided for the laying out of town ways, and such ways can therefore be provided wherever the need is sufficient to justify the expense.

Heating Passenger Cars.

No action was taken by the Legislature at its last session, relating to the heating of passenger cars. This matter, therefore, remains in the condition set forth in our last annual report, so far as the duty and responsibility of this Board is concerned. The following table shows the progress made during the last four years in heating by steam from the locomotive on the various railroads in the Commonwealth : —

RAILROADS.	NUMBER OF CARS HEATED BY STEAM FROM LOCOMOTIVE.				HEATED BY INDIVIDUAL HEATERS.
	1887.	1888.	1889.	1890.	1890.
Boston & Albany, ...	106	226	243	267	56
Boston & Maine, ...	0	11	232	317	507
Fitchburg, ...	11	73	all	247	1
New York & New England, . .	16	74	158	178	78
Old Colony, ...	67	150	152	168	331
Connecticut River, ...	24	34	50	59	0
Housatonic, ...	0	0	0	0	93
New London Northern, . . .	0	5	16	19	6
New York, New Haven & Hartford,	0	0	0	0	all
New York, Providence & Boston (formerly Providence & Worcester), ...	17	23	40	65	0
Boston, Revere Beach & Lynn, .	all	all	all [25]	27	0
Nashua, Acton & Boston, . .	0	0	0	0	104

The total number of cars heated by steam from the locomotive is 1,347.

For other statistical information relating to steam heating, see Appendix.

Considering the fact that locomotive steam heating is not compulsory, and that no time has been fixed after which the use of individual heaters will be illegal, the progress made by our railroads as a whole during the last year is commendable. As usual, some have been dilatory or conservative, while others have been progressive, and have so far as possible eliminated the danger from fire. The table shows that, had compulsory legislation been adopted, it would have been possible for all our roads by this time to have equipped all their passenger trains with some train-heating system. The chance of being burned to death in case of an accident on our railroads is not now so great as it has been in the past; but, on the other hand, it is not so small as it might and as in the opinion of the Board it should be. It is believed that the experience of those roads which have adopted train systems of heating has shown that such systems are not only more safe, but cleaner and more economical, than individual heaters.

In the present development of train-heating systems, there would be no excuse for the management of a railroad on which there should be any loss of life by fire started by individual heaters. The indignation of the public in case such an accident should happen would be very great. It is deplorable that another loss of life from burning may be necessary, in order to secure the completion of this reform. As stated in our last report, the Legislature of the State of New York has absolutely prohibited, except in case of temporary emergency, the heating of passenger cars by means of heaters or stoves kept in the cars or suspended therefrom.

Blocking Frogs and Switches.

By Statutes 1886, chapter 120, railroad corporations were required, before the first of January, 1887, to adjust, fill or block frogs, switches and guard rails, excepting guard rails on bridges, so as to prevent the feet of their employees from being caught therein. The work was to be done to the satisfaction of the Board of Railroad Commissioners, evidenced by the certificate of their clerk; and failure to comply with the provisions of the act was punishable by a fine of not less than one hundred dollars nor more than one thousand dollars.

On the first of January, 1887, none of the companies had complied with the requirements of the act to the satisfaction of the Board. As the time allowed for such compliance had been short, and as there was uncertainty as to what would prove to be the best form of blocking or filling, no attempt was made to enforce the penalty provided by the statute. The Board deemed that the object of the statute was not so much to secure the payment of a penalty, as to secure a proper blocking or filling of the frogs and switches; and it therefore addressed itself to an endeavor to secure the desired result.

It will be noticed that the statute provided a penalty in case the blocking or filling was not completed by the first of January, 1887, but did not require that such blocking and filling should thereafter be kept in repair, nor was there any requirement that the work, if not then done, should be done thereafter. In other words, there was nothing in the act to prevent a company from taking the position that it would suffer the penalty of a fine for not having blocked prior to the first of January, 1887, and would take no further action in the premises.

The law being thus defective, the spur which it purported to bear was useless. The Board, however, in the case of dilatory roads, has not failed to be persistent in the use of persuasion and entreaty, agencies congenial to it and in harmony with the principles on which it was founded. Between the first of January, 1887, and the present time, considerable progress has been made. While the method of blocking or filling adopted by some of the roads has proved to be unsatisfactory, and while other roads which have adopted a satisfactory method have not yet completed the work, still, all the companies have, by their general managers, given to the Board assurance that it is their intention with all reasonable expedition to complete the equipment of their lines according to methods approved by the Board.

Public Grade Crossings.

From the returns made by the various companies, it appears that the whole number of highway grade crossings is 2,234, being an increase of 16 over last year. This increase is accounted for as follows: —

Grafton & Upton Railroad (specially authorized by the Legislature, Statutes 1889, chapter 304),	15
Boston & Maine Railroad, correction in count,	23
Total additions,	38

from which are to be deducted the following: —

On Boston & Albany Railroad, abolished,	8	
On Old Colony Railroad, abolished,	9	
On New Haven & Northampton Railroad, abolished,	3	
On Connecticut River Railroad, abolished,	1	
On Fall River Railroad, correction of count,	1	
Total deductions,		22
Net increase,		16

The Wrentham branch of the Old Colony Railroad, 12 miles long, has been built during the year without a single crossing at grade.

The Abolition of Grade Crossings.

The Legislature at its last session passed an act entitled, "An Act to promote the abolition of grade crossings" (Statutes 1890, chapter 428). This act embodied an entirely new feature of legislation upon this subject. By the previous provisions of law the expense of abolishing grade crossings had been apportioned between the railroad corporation and the town, city and county in which the crossing was situated, and other towns and cities within the county specially interested. The intent had been that this apportionment should be made according to the peculiar equities involved in each case. Under these provisions the abolition of grade crossings had been slow and unsatisfactory, and it was generally considered that the reason why proceedings to abolish grade crossings were not more frequently instituted, and more likely to succeed when they were instituted, was that both the railroad company and the cities and towns upon whom the expense would fall, much as they might desire the abolition of a grade crossing, were unwilling to petition therefor, or in any way to express a desire therefor, or even admit such desire, through fear that such expression or admission might lead the special commission entrusted with the duty of apportioning the expense to place a greater share of it upon them. Manœuvring for position was considered so essential, that cities and towns seldom, if ever, took the initiative, and petitions by railroad companies were unusual. In order to avoid this difficulty, it was suggested that the proportions to be paid by the parties interested should be fixed by the statute; and it was urged to the satisfaction of the Legislature, that, although the proportions so fixed might not be exactly equitable in any given case, a fair average could be struck, and that a great hindrance to the abolition of grade crossings would thereby be removed.

In order still further to diminish the opposition coming from city and town governments, it is provided that the portion not paid by the railroad shall be paid jointly by the city or town in which the crossing is situated, and by the State. The proportion imposed upon the railroad companies is sixty-five per cent. of the total cost. The remaining thirty-five per cent. is to be paid by the State and the town, the town's share being not more than ten per cent. of the whole cost. The amount to be paid by the Commonwealth in any one year is limited to five hundred thousand dollars, and the total amount to be paid by the Commonwealth is limited to five million dollars.

In response to a letter dated December 8, addressed to the various railroad companies, inquiring what action had been taken under the law, responses have been received, which may be found in the Appendix. From these responses, and from information received as to action taken by the cities and towns, it appears that since the passage of the law proceedings have been instituted for the abolition of 67 crossings. In 30 cases the proceedings were instituted by the city or town authorities, and in the remaining 37 cases by the railroad companies.

LINE.	By Company.	By City or Town.	Total.
New York, New Haven & Hartford, .	–	8	8
Boston & Albany, ...	26	7	33
Boston, Revere Beach & Lynn, . .	–	–	–
Connecticut River, ...	–	3	3
New London Northern, ...	1	–	1
Fitchburg, ...	1	9	10
New York & New England, . . .	1	3	4
Housatonic, ...	–	–	–
Boston & Maine, ...	–	–	–
Old Colony, ...	8	–	8
	37	30	67

Grade Crossings in the City of Lynn.

In the last annual report attention was called to the lamentable inaction of the Boston & Maine Railroad and the city of Lynn, in relation to abolishing the crossings at grade in that city. Under the law passed by the last Legislature no action has been taken for the abolition of such crossings, either by the city or by the railroad company.

The burned district is being rebuilt, and the opportunity is being wasted. It is doubtful whether in a large city such an opportunity was ever before offered to its authorities and to a railroad company to relieve themselves from conditions which will day by day become more onerous and more firmly saddled upon them, and which will militate against the growth and prosperity of each.

As the Commonwealth has undertaken to pay a portion of the expense of abolishing grade crossings, it seems that it would be proper for the Legislature, in such an extraordinary case as this, to require that proceedings for the abolition of these crossings at grade should be instituted before the crossings are again hedged in by improvements which will increase many fold the cost of the work.

The Front Street Crossing in Cambridge.

The first application of the city of Cambridge, asking the Board to prescribe the details of the Front Street crossing over the tracks of the Boston & Albany Railroad Company, under the provisions of Statutes 1882, chapter 155, section 6, was made in the year 1889. As will appear from the decision of the Board, page 88 of the last annual report, the Board held that at that time the avenue had not been legally laid out, and that it was impossible to prescribe the details of a crossing before the position of the avenue had been legally determined. Legislation having been secured and other action taken to legalize the laying out of the avenue, a second petition was presented by the city of Cambridge during the current year, and the decision of the Board prescribing an overhead crossing, will be found in the Appendix.

Subsequently the city of Cambridge, claiming that the act of 1882 did not give to the Board the power to determine whether the crossing should or should not be at grade, brought two petitions in the supreme judicial court, one that a writ of mandamus and the other that a writ of certiorari might issue against the Board. A preliminary hearing was had before a single judge, and the two cases were by him reported to the court. This report was favorable to the contention of the city of Cambridge. The two cases were, with the consent of all parties, advanced for hearing, and were argued in November. The Board of Railroad Commissioners appeared without counsel and submitted its case upon its brief. (See Appendix.)*

GENERAL PHYSICAL CONDITION OF THE RAILROADS.

Bridges.

The following report of the bridge engineer of the Board shows the general good condition of the railroad bridges in this

---

* On Jan. 13, 1891, the court delivered an opinion sustaining the position taken by the city of Cambridge, and ordering a writ of certiorari to issue.

State. The Board endorses the recommendations contained in the report.

BOSTON, Dec. 31, 1890.

To the Massachusetts Board of Railroad Commissioners, Hon. GEORGE G. CROCKER, *Chairman.*

GENTLEMEN: — I beg leave to submit the following report regarding the work which has been done since the date of my last report, in compliance with the statute providing for the inspection of railroad bridges.

According to that statute, biennial reports were required from the railroad companies, and the second one was due Nov. 1, 1889. At the date of my last report these second reports had been received from some but not from all of the railroad companies. Since that time, however, reports have been received from the remaining companies, except from the Grafton & Upton Railroad Company, from which corporation no report whatever has yet been received. A third report has also been sent by the New York & New England Railroad Company, in compliance with the statute, its second report having been made in December, 1888, and the third in December, 1890.

These second reports have been very carefully examined, and compared with the former ones and with the information on file in this office. Many structures have also been examined in the field, and wherever anything was observed which demanded attention you have been informed regarding it.

Speaking generally, the bridges of this State are in excellent condition, although there are still some whose condition is poor, or whose strength is below what is desirable.

I present herewith the usual tables containing statistics regarding the bridges of the State. Table I. gives the number of bridges of various kinds on the different roads, being a revision, with corrections and additions, of the table given on page 14 of your last annual report. As there stated, in this classification a number is given to each span of trussed bridge, plate girder or wooden stringer resting on masonry supports, while wooden trestle and pile bridges are given but one number each, irrespective of their lengths.

Table I.

ROAD.	Pile Bridges.	Wooden Trestles.	Wooden Stringers.	Braced or Trussed Stringers.	Wooden or Combination Trusses.	Stone or Brick Arches.	I-Beams.	Plate Girders.	Iron Riveted Trusses.	Iron Pin-connected Trusses.	Rails.	Pin-connected Iron Swing Bridges.	Iron Folding or Jack-knife Draws.	Pratt, Howe or Wooden Jack-knife Draws.	Trussed Beam Jack-knife Draws.	Plate Girder Swing Bridges.	Trussed Beam Swinging Draws.	Howe Truss Swing Bridge.	Total Spans Stone Bridges.	Total Wooden and Combination Bridges (fixed spans).	Total Iron Bridges (fixed spans).	Total Moveable Bridges.	Grand Total.		Total Length of Pile and Trestle Bridging (approximate).*
Boston & Albany,†	8	2	4	2	18	46	47	44	66	–	–	–	2	2	–	–	–	–	46	34	157	4	241		3,335
Boston & Maine																									
Boston & Lowell,	6	4	35	8	–	15	3	17	19	–	–	–	–	2	–	–	–	–	15	53	39	2	109	426	2,245
Eastern,	23	–	4	–	2	2	26	9	1	7	–	1	–	6	–	1	1	–	2	29	43	9	83		8,022
Central Massachusetts,	12	1	34	3	4	1	–	20	34	1	–	–	–	–	–	–	–	–	1	54	55	–	110		2,625
Boston & Maine, W. Div.,	7	1	20	4	9	10	23	15	1	6	–	–	–	3	–	–	–	–	10	41	45	3	99		4,530
Worcester & Nashua,	1	1	3	–	3	4	–	11	1	1	–	–	–	–	–	–	–	–	4	8	13	–	25		–
Boston, Revere Beach & Lynn,‡	6	–	–	–	1	–	–	–	–	–	–	–	–	–	1	–	1	–	–	7	–	2	9		8,603
Cheshire,	–	–	1	3	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	9	–	–	9		–
Connecticut River,	–	–	–	2	1	9	1	20	12	7	–	–	–	–	–	–	–	–	9	3	40	–	52		–
Fitchburg,	5	8	2	1	14	22	18	98	7	26	–	–	–	1	–	–	–	–	22	30	149	1	202		4,212
Grafton & Upton,	1	–	2	–	2	–	–	1	–	–	–	–	–	–	–	–	–	–	–	5	1	–	6		50
Housatonic,	13	5	11	–	2	1	3	12	1	–	–	–	–	–	–	–	–	–	1	31	16	–	48		930
Hoosac Tunnel & Wilmington,	–	6	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	13	–	–	13		–
Martha's Vineyard,	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	–	–	4		3,235
Nashua, Acton & Boston,	–	–	1	–	–	1	2	1	–	–	–	–	–	–	–	–	–	–	1	1	3	–	5		–
New London Northern,	5	2	9	5	23	1	3	5	5	–	–	–	–	–	–	–	–	–	1	44	13	–	58		580
New York & New England,	9	6	28	10	18	14	1	32	1	4	–	–	–	1	–	–	–	1	14	68	41	2	125		2,277
New York, New Haven & Hartford,	–	–	1	1	1	4§	6	67	–	12	–	–	–	–	–	–	–	–	4§	3	85	–	92		–
Providence & Worcester,	–	–	3	1	3	2	–	18	1	7	–	–	–	–	–	–	–	–	2	7	26	–	35		–
Old Colony																									
Boston & Providence,	1	–	1	–	–	11§	11	21	–	1	–	–	–	–	–	–	–	–	11‖	2	33	–	46	338	15,500
Old Colony proper,	52	4	78	3	7	17	16	97	6	5	1	2	1	3	–	–	–	–	17	144	125	6	292		
Totals,	153	40	244	43	113	160	160	488	155	77	1	3	3	18	1	1	2	1	160	590	884	29	1,663		56,144
Deduct as counted twice,	–	–	–	–	–	–	–	4	–	1	–	1	–	–	–	–	–	–	–	–	5	–	5		–
	153	40	244	43	113	160	160	484	155	76	1	3	3	18	1	1	2	1	160	590	879	29	1,658		56,114

---

* In some cases these figures may be several hundred feet from the truth.

† Including Webster and Springfield extension.

‡ Including Boston, Winthrop & Shore.

§ Approximate — stone bridges not stated on schedule.

‖ Counting Canton viaduct as one.

Table II. is intended to give an approximate idea of the amounts expended by the different companies in renewing and strengthening old bridges, and in building new ones. The figures given can only be interpreted in a general way, since they include in some cases considerable amounts expended for new construction or for overhead bridges. Moreover, the sums stated do not refer to expenditures in this State alone, but in each case to the entire line. The figures given for 1890 are for the fiscal year ending June 30, 1890; the figures for 1889 are for the fiscal year ending June 30, 1889; while the figures for the year 1888 are for the fiscal year ending Sept. 30, 1888. It will be noticed that the expenditures this year are very much less than last year, and, in fact, less than in any year since 1882. This is to be expected, in view of the large amounts which were expended during 1888 and 1889, which resulted in putting the bridges on many roads into such good condition that future expenditures may in such cases be comparatively small. The Boston & Albany Railroad, which spent large amounts in 1888 and 1889 in renewing and strengthening structures, has spent during the past year little more than half the amount expended in 1889. The Boston & Maine Railroad has expended about the same as in 1889, but considerably less than in 1887 or 1888; the Boston, Revere Beach & Lynn Railroad has expended less than in 1888 or 1889; the Connecticut River Railroad, about the same as in 1889, but very much less than in 1888. The Fitchburg has effected a very large reduction, having expended in 1890 not one-third of what it did in 1889, less than a quarter of what it did in 1888, and much less than in any year since 1882. The amount expended by the Housatonic Railroad, however, though very small, is greater than in any year since 1881. The amount expended by the New London Northern Railroad, while much less than the amounts expended in 1888 and 1889, is considerably more than the amounts for any previous year included in the table. The New York & New England Railroad has expended almost precisely the same as last year, while the New York, New Haven & Hartford has spent only about half as much. The Old Colony has also reduced its expenditure much below that of last year, and to less than half that in 1888, 1887 or 1886, during which years its expenditures were very large. The Providence & Worcester, which during the past three years has been putting its bridges into the very best condition, has spent less than in 1888 or in 1889, and probably its expenses in the future will be considerably smaller.

TABLE II.

Showing the Approximate Amounts expended for Repairs and Renewals of Bridges.

ROAD.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Boston & Albany, ...	$59,838 96	$55,851 39	$86,151 23	$128,949 05	$149,212 82	$83,574 87	$93,542 31	$182,353 62	$152,448 14	$88,526 65
Boston & Maine, ...	142,748 21	259,225 85	188,105 71	184,357 55	221,908 96	224,189 64	374,931 20	400,458 28	296,628 89	287,604 91
Boston, Revere Beach & Lynn,* .	12,406 42	5,639 10	5,375 55	4,692 21	1,072 18	756 73	5,648 66	27,704 84	12,698 83	9,180 15
Cheshire, ...	4,876 22	276 50	722 94	1,790 34	2,129 26	1,311 20	11,680 32	4,176 12	3,254 29	3,810 88
Connecticut River, . . .	9,823 24	70,695 03	89,225 47	43,241 04	5,283 47	24,794 54	35,513 79	141,093 11	77,337 84	71,217 27
Fitchburg, ...	51,381 30	28,933 09	152,574 84	176,839 85	158,422 75	123,430 13	110,968 90	233,222 27	165,026 58	51,477 00
Housatonic, ...	5,192 35	1,264 41	3,307 31	1,711 05	1,836 71	472 00	2,991 02	2,451 31	1,242 65	3,332 41
New London Northern, . .	7,465 25	8,380 56	6,961 88	6,458 70	5,904 64	6,628 67	5,670 78	19,019 06	54,938 45	10,749 16
New York & New England, .	231,074 68	112,523 04	149,029 60	164,692 56	19,824 63	56,757 11	137,331 78	171,495 08	83,977 43	83,041 37
New York, New Haven & Hartford,	274,196 78	57,998 74	261,559 40	309,385 54	246,862 54	208,846 01	75,966 52	364,919 36	429,595 26	230,858 53
Old Colony, ...	126,440 00	85,417 96	149,833 27	96,324 09	142,206 07	230,023 05	220,025 65	222,853 66	167,838 16	108,162 40
Providence & Worcester, . .	31,563 29	26,084 86	26,561 07	36,905 09	24,092 66	62,120 69	35,030 84	82,452 34	157,530 52	74,124 07
Martha's Vineyard,† . . .	1,790 28	1,461 57	2,681 56	1,109 27	1,669 91	2,393 37	769 23	1,415 43	5,122 87	1,263 06
Totals, ...	$958,796 98	$713,752 10	$1,122,089 83	$1,156,456 34	$980,426 60	$1,025,298 01	$1,110,071 00	$1,853,614 48	$1,607,639 91	$943,347 86

* Including Boston, Winthrop & Shore.

† "Repairs of Roadway."

N. B.—The figures given for any road in past years are the sums expended on all the lines at present controlled by the said road. The figures include in some cases considerable sums expended for new construction and for overhead bridges.

Table No. III. has been revised from that on page 19 of the last report, and gives some idea of the percentage of renewals during the past calendar year, and also since July, 1887, after the passage of the act. It must be remarked that this table cannot well be compared with those in previous reports, except as regards the percentages, for the reason that the same bridge which was strengthened in 1889 may have been further strengthened or renewed, or perhaps abolished, during 1890. It appears from this table that, of the total number of bridges in the State (1,658), 354, or about 21.4 per cent., have been built new since July, 1887, and 64, or 3.9 per cent., during 1890; while 531, or 32.0 per cent, have been either renewed or considerably strengthened since July, 1887, and 107, or 6.5 per cent., during 1890. When it is considered that within three and one-half years the Connecticut River road has entirely renewed 28.8 per cent. of all its structures, the Providence & Worcester 42.9 per cent., the Old Colony 34 per cent., the Fitchburg 14.9 per cent., the Housatonic 45.8 per cent., and the Boston & Maine 21.6 per cent., some idea will be gained of the energy with which these companies have gone to work to improve their bridge structures and to ensure their absolute safety. On some of the roads in the State the bridges, almost without exception, are in first-class condition, and but little should be required to be done to them for many years. On other roads, however, especially those having large numbers of small structures which require constant attention, a good deal must be done each year in keeping them up to the proper standard. Almost without exception, however, the railroad engineers having charge of bridges in this State appreciate the necessity of watching them closely, and also appreciate fully the wisdom of maintaining high standards of strength.

TABLE III.

ROAD.		Total Number of Spans or Bridges (See Table 1).	Number rebuilt or built new during 1890.	Number extensively repaired or strengthened during 1890.	Per cent. new during 1890.	Per cent. new or extensively repaired during 1890.	Number rebuilt or built new since July, 1887.	Number extensively repaired or strengthened since July, 1887.	Per cent. new since July, 1887.	Per cent. new or extensively repaired since July, 1887.	REMARKS.
Boston & Albany,		241	7	2	–	–	30	25	–	–	
Boston & Maine,	Boston & Lowell,	109	2	1	1.8	2.7	22	8	20.1	27.5	
	Eastern,	83	1	–	1.2	1.2	26	6	31.3	38.5	
	Central Massachusetts,	110	1	1	0.9	1.8	13	6	11.8	17.3	
	Boston & Maine W. Div.,	99	1	–	1.0	1.0	26	9	26.2	35.4	
	Worcester & Nashua,	25	–	1	–	4.0	5	1	20.0	24.0	
Boston, Revere Beach & Lynn,		9	–	4	–	44.4	1	4	11.1	55.5	A narrow-gauge road.
Cheshire,		9	–	–	–	–	–	2	–	22.2	Other bridges repaired and strengthened.
Connecticut River,		52	2	–	3.8	3.8	15	2	28.8	32.7	
Fitchburg,		202	1	8	0.5	4.5	30	28	14.9	29.2	
Grafton & Upton,		6	–	–	–	–	5	–	–	–	Extension of line opened this year.
Housatonic,		48	10	–	20.8	20.8	22	1	45.8	47.9	Many trestles and stringers changed to pile bridges.
Hoosac Tunnel & Wilmington,		13	–	–	–	–	–	–	–	–	Road opened in 1889.
Martha's Vineyard,		4	1	3	25.0	100.0	1	3	25.0	100.0	A narrow-gauge road.
Nashua, Acton & Boston,		5	–	–	–	–	2	1	40.0	60.0	
New London Northern,		58	2	5	3.4	12.0	11	20	19.0	53.4	
New York & New England,		125	–	8	–	6.4	14	17	11.2	24.8	
New York, New Haven & Hartford,		92	1	–	1.1	1.1	5	–	5.4	5.4	One new bridge this year.
Providence & Worcester,		35	5	–	14.3	14.3	15	4	42.9	54.3	
Old Colony,	Boston & Providence,	46	11	–	23.9	23.9	25	6	54.3	67.5	Branch line opened this year.
	Old Colony proper,	292	19	10	6.5	9.9	90	33	30.8	42.1	
Totals,		1,663	64	43	–	–	358	177	–	–	
Deduct as counted twice,		5	–	–	–	–	4	–	–	–	
		1,658	64	43	3.9	6.5	354	177	21.4	32.0	

With regard to bridge floors, I repeat the recommendation made last year regarding jack-knife draws; namely, that they be protected by re-railing devices wherever practicable, and that they be not run over at high speeds unless so protected. No accident has for many years occurred at any of these structures, and, considering the number of trains passing over them every day at high speeds, this result is somewhat remarkable. The consequences which would ensue, however, were a passenger train to be derailed when approaching such a structure unprovided with guard rails or a re-railing device, are frightful to contemplate. Should such a disaster occur, the wonder would be that railroad managers had not realized its possibility. It is not sufficient in the case of these jack-knife draws to carry a guard rail across the bridge by the side of the track rail, for the reason that the distance between these two rails is not, and in most cases can not be, great enough to allow a derailed truck to pass over safely. With a wide floor of substantial ties, properly arranged inside guard rails would on such short spans ensure safety in any case which is likely to occur; but, in the case of the jack-knife draws, the addition of re-railing frogs is not only advisable, but essential. Since the last report these re-railing frogs have been applied on the jack-knife draw of the Old Colony Railroad at Neponset, which is the only one on this system over which trains pass at high speed. Other roads, however, have not followed the example of the Old Colony.

I would again emphasize the fact that inside guard rails should be not less than seven inches in the clear from the track rails, and that the proper distance is eight or nine inches, as explained in my report for 1888. There are still some bridges in the State having guard rails much too close to the track rail; in some cases, indeed, with a clear space not sufficient to allow a wheel to run between, which evidently entirely destroys the value of this device.

Respectfully submitted,

GEO. F. SWAIN.

THE IMPORTANCE OF GREATER HARMONY IN THE REGULATION OF RAILROADS BY THE SEVERAL STATES AND BY THE UNITED STATES.

At a convention of the Railroad Commissioners of the various States, called by and held at the office of the Interstate Commerce Commission in Washington, in March, 1889, a committee of five was appointed to consider how harmony in railroad legislation can be secured. That committee made its report at the convention held under the same auspices in May, 1890, and a copy of its report may be found in the appendix. The report first discusses to what extent lack of harmony exists, and then the reasons why such lack of harmony is mischievous and objectionable, and closes with suggestions as to the subjects of legislation upon which harmony might and should be attained.

After a discussion of the report, the following resolutions were adopted by the convention: —

I. *Resolved*, That it is expedient that the laws of the several States should be in exact harmony with the interstate commerce act on the following topics: —

The definition and prohibition of unjust discrimination.

The prohibition of undue and unreasonable preferences and advantages.

The requirement of equal facilities for the interchange of traffic.

The regulation of the relations between rates of compensation to be allowed for long and short hauls.

The regulations as to printing and posting rates, fares and charges.

The regulations as to notice to be given of advances and reductions in rates.

The penalties for false billing, false classification, false weighing, etc.

II. *Resolved*, That the respective States should require, either directly by law or indirectly through the instrumentality of their railroad commissions, each railroad corporation subject to their jurisdiction to place driving-wheel brakes and apparatus for train brakes upon every locomotive constructed or purchased by it, and train brakes upon every freight car hereafter constructed or purchased by it, and also upon such cars and upon every freight car owned by it, the coupler or drawbar of which is repaired by it, an automatic coupler of the Master Car Builders' type at each end of the car.

III. *Resolved*, That Congress, either directly by law or indirectly through the instrumentality of the Interstate Commerce Commission, should take similar action.

The reasons which led to the adoption of the first resolution are sufficiently stated in said report, and need not be repeated here. The last two resolutions are referred to elsewhere in this report.

Not only is it desirable that the legislation of the respective States should conform to the legislation of the United States, as set forth in the first of the above resolves, but there are also many matters not yet covered by federal legislation, upon which the laws of the various States might and should be uniform. The subject is of wide scope, and difficult to handle. It is questionable whether it should be attacked by sections, or dealt with as a whole. That greater uniformity is needed, and would be of advantage to the railroad companies as well as to the public, is beyond dispute. Diversity of opinion is to be expected as to the methods and the steps by which such uniformity can best be secured.

Our railroad laws need revision and consolidation. If provision for such revision be made, the amendment of our laws so as to make them conform to the provisions of the interstate commerce act might await such revision.

A railroad act systematic in its arrangement and prepared by men of experience and learning, might be followed as a model in other States, and might prove a valuable agency for promoting greater harmony in the laws of the several States.

The following is an extract from the above-mentioned report of the committee on the means for securing harmony in railroad legislation: —

> "The constitutional right (of the national government) to regulate interstate commerce has, within the past fifteen or twenty years, been developed and declared to an extent which before that time none but dreamers imagined. The indications are that many of our State laws, if carried to the supreme court, would be held to be unconstitutional, and many others have validity only so long as Congress neglects to cover the same ground.
>
> Whatever may be the proper limit of the powers of Congress, — whether Congress has or has not the right, as to every railroad engaged directly or indirectly in interstate commerce, whether wholly in one State or running into two or more States, not only to regulate fares for passengers and freight, but also to determine how the cars for the transportation of passengers and of freight shall be built; what their dimensions shall be; what their appliances for convenience and safety shall be; what shall be their rate of speed; what stops they shall make; what shall be the method of construction and the weight of locomotives; what shall be the method of construction and of supervision of roadway, of tracks and of bridges; what system of road signals shall be used; what shall be the character of the station accommodations to be provided, and how the public shall

be protected at such stations; what regulations shall be enforced in regard to the operation of the road, and what regulations shall be prescribed as to the compensation of employees and the limit of their hours of labor, etc.; whether it is or is not true that the States, by allowing their railroad corporations to take part in interstate commerce, have thereby parted with all but a shadow of control over the subjects of their creation; whether such railroads in their growth have or have not practically broken their mothers' apron strings, and, having come of age as it were, are now free from her control, and in all essentials subject only to the higher power of the United States, — still, it must be admitted that these are far-reaching and somewhat perilous questions, and that it is expedient that changes from present conditions should be made slowly.

The tendency of the times, however, is to force the issue with alarming rapidity. Every inconvenience, delay and expense to the public or to the railroads, connected with the billing and transportation of interstate freight, or with the ticketing and carriage of through passengers, and growing out of the limitations imposed by State or corporate lines of division; every case of excessive and unreasonable regulation, or of lax and careless supervision by State authorities; every corrupt or ignorant legislature; every instance of conflicting or multiform regulations by the several States; every difficulty in regulation or in management of whatever nature resulting from State lines; every attempt by a railroad corporation to escape State regulation by pleading that such regulation is unconstitutional, as an interference with interstate commerce; every cut-throat struggle between competing lines, and, finally, the panacea for most of the foregoing evils, every consolidation, — furnishes an argument against State regulation, and in favor of the extension of congressional control.

Great, however, as are the objections to present conditions, the dangers which would grow out of an attempt by Congress to undertake the full regulation of our railroads seem more serious. Congress is crushed under a weight of business with which it is unable to cope successfully. The virtue and the wisdom of its members are strained to a dangerous excess in the effort to revise the tariff. An attempt by Congress to regulate the details of the operation of our railroads cannot be looked forward to by any patriotic citizen without grave apprehension. There are, moreover, many reasons for believing that absolute regulation by the United States will result in absolute ownership by the United States.

Whatever the Constitution permits or requires, whatever is inherently right as a matter of principle, whatever conclusion may be reached as to what would be expedient in the long run, it must nevertheless be conceded that at the present time we are unprepared for a sweeping change, and that a multitude of considerations urge that all should unite in stemming the present current. To this end the railroad companies themselves can do much. Some of them in the past have conducted themselves wisely, judiciously, and with an obvious realization of their public responsibilities. Others have in the past followed, and some of them still continue to follow, selfish and short-sighted policies, injurious to themselves and demoralizing to others. Their endeavors to evade State regulation have led to the exercise by Congress of some of the powers vested in it. Every company which acts on the general principle that compliance with a State law should be avoided, if possible, is simply paving the way for further congressional interference. Above all things, the companies should not rest until practical uniformity in operating rules has been secured.

The legislatures of the various States can do much, by intelligent and conservative action, to postpone the day when their offspring shall no longer acknowledge their control. To this end they should bring their legislation into harmony with congressional legislation, as has been pointed out; they should also bring about greater harmony in legislation among themselves, not only on those points in which they have exclusive right to legislate, such as certain police powers, but also on those matters on which they have temporarily the right to legislate, owing to the failure of Congress to exercise its powers, and upon those matters in relation to which the power to legislate has not been directly denied to them by the decisions of the supreme court."

Freight-Car Couplers.

During the past statistical year 6 employees have been killed and 152 have been injured in coupling or uncoupling cars. Forty per cent. of all the accidents to employees are due to this cause. Statistics furnished by the Interstate Commerce Commission, for the year ending June 30, 1889, show that, taking the United States as a whole, the number killed in coupling or uncoupling was 300, the number injured 6,757, making a total of 7,057, which is 32 per cent. of all the accidents to railroad employees, and 56 per cent. of all the accidents to trainmen. These accidents are preventable.

A statement in regard to the action of the Legislature and of this Board on this subject was embodied in the last report. (See pp. 8 to 11.) The Legislature for 1890 passed the following resolutions: —

Whereas, Thousands of persons are annually killed or injured in the making up of freight trains and handling the brakes of railroad cars used in interstate traffic, which might be prevented by the use of uniform automatic couplers and train brakes ; and

Whereas, Appalling railway disasters, attended by awful suffering and fearful loss of life, result from the use of dangerous and unscientific methods of heating and lighting railway cars used in interstate passenger traffic ; and

Whereas, No system of coupling, heating or lighting of cars, which will be at once practicable, safe and uniform, is likely to be adopted by the several railroad corporations, nor made compulsory by the laws of the several States ; therefore

Resolved, That the Senate and House of Representatives of the Commonwealth of Massachusetts, in general court assembled, do most respectfully and earnestly urge upon Congress the consideration of the foregoing subjects, with a view to the passage of resolutions instructing the Interstate Commerce Commission to consider whether some uniform means may not be adopted to save life, prevent suffering, and add to the comfort and security of railway passengers and employees in the heating, lighting and operating of railway cars used in interstate commerce ; to the end that said commission may make recommendations to the various railroads within its jurisdiction, and report the same to Congress, with such suggestions as to legislation on said subject as may seem necessary or expedient.

Resolved, That a copy of these resolutions be sent to the Congress of the United States, and to each of our Senators and Representatives therein.

The purport and general tenor of these resolutions is the same as of the resolutions passed by the Legislature of 1889.

As has been noted elsewhere in this report, the following resolution was adopted at a convention of the Railroad Commissioners of the various States, held at the rooms of the Interstate Commerce Commission in Washington in May last : —

Resolved, That the respective States should require, either directly by law or indirectly through the instrumentality of their railroad commissions, each railroad corporation subject to their jurisdiction to place driving-wheel brakes and apparatus for train brakes on every locomotive constructed or purchased by it, and train brakes upon every freight car hereafter constructed or purchased by it, and also upon such cars and upon every freight car owned upon it, the coupler or drawbar of which is repaired by it, an automatic coupler of the Master Car Builders' type at each end of the car.

Resolved, That Congress, either directly by law or indirectly through the instrumentality of the Interstate Commerce Commission, should take similar action.

Even previous to the time when the Master Car Builders' type was thus endorsed at the convention of the Railroad Commissioners of the various States, the Commissioner of Railroads for the State of Michigan had issued the following very important order: —

Office of the Commissioner of Railroads,
Lansing, Mich., May 20, 1890.

To General Managers and Superintendents of Michigan Railroads.

Gentlemen: — On March 1, 1890, a circular of inquiry was issued from this office as to the propriety of withdrawing from the list of couplers, from which railroads may select, all so-called automatic link couplers, and requiring all cars to be equipped with the Master Car Builders' type, as fast as new cars are built or taken to the shops for renewal of drawbars or general repairs.

The replies to this circular are almost unanimous in favor of this action. There is a difference of opinion as to when all cars should be required to be equipped, but otherwise both managements and train men favor this action. Favorable replies have been received from the general managers of the following railroads: Chicago & West Michigan; Chicago & North Western; Detroit, Lansing & Northern; Flint & Pere Marquette; Grand Rapids & Indiana; Lake Shore & Michigan Southern; Michigan Central; Milwaukee, Lake Shore & Western; Milwaukee & Northern; and the Toledo, Ann Arbor & North Michigan. Personal interviews with the managers of other roads, who have not made formal replies to the circular, show a general consensus of opinion favorable to the proposed action by this department.

Having fully considered this subject, it has been decided to follow the course indicated in circular of March 1, 1890. You will therefore take notice that, on and after this date, the several freight-car couplers authorized for use in the State by the official order of the Commissioner of Railroads, promulgated May 1, 1886, a copy of which is appended hereto, — viz., the Aikman Automatic Car Coupler, the Ames Automatic Car Coupler, the Blocker Automatic Car Coupler, the Cowell Feight Coupler, the Marks Automatic Coupler, the McCree Automatic Coupler and the Perry Car Coupler, — will no longer be authorized for use in this State, and the above-mentioned order is hereby recalled and rescinded.

The following couplers or drawbars of the vertical plane class have already been authorized for use in this State: viz., the Janney, Dowling, Gould and Hinson, and other couplers of the Master Car Builders' type, will be approved, upon the application of the manager of any railroad wholly or partly in this State, upon depositing in this office a model of the coupler desired to be used.

For your information the provisions of the law of this State in relation to car couplers, the circular of March 1, and the replies, so far as available for publication, thereto, are appended to and made a part of this circular.

That of Mr. Ledyard, president and general manager of the Michigan Central Railroad Company, inclosing copy of resolution adopted by the presidents of the Vanderbilt system of roads in the United States, April 29, ult., is of especial importance in this connection, as the roads represented at that meeting not only have large track mileage of their own, but in importance of line and traffic connections are second to no other system in the country. Their official action with reference to the matter in question must necessarily have an important bearing upon its final solution.

Yours respectfully,

(Signed) JOHN T. RICH,
Commissioner of Railroads.

The letter of Mr. Ledyard referred to in the foregoing order was as follows: —

MICHIGAN CENTRAL RAILROAD COMPANY, PRESIDENT'S OFFICE,
DETROIT, MICH., May 5, 1890.

JOHN T. RICH, Esq., *Commissioner of Railroads, Lansing.*

DEAR SIR: — Inclosed herewith I send you a copy of the resolution which was passed at the meeting of the presidents of the Vanderbilt lines on April 29, with regard to the equipment of freight cars with air brakes and self-couplers.

It was not thought best to specify any special make of self-couplers, but to leave the roads free to experiment with different couplers of the vertical type, it being the understanding that any coupler adopted by any one company should be such as would interchange with other couplers of a vertical type which any of the other Vanderbilt roads might decide to adopt.

I think this is a great stride in the direction of uniformity, and am satisfied that, if carried out, it will soon result in the doing away of much of the trouble we have had in the past with the question of couplers and brakes.

Yours truly,

(Signed) H. B. LEDYARD,
President.

Resolution, re-equipment of freight cars with air brakes and self-couplers, passed unanimously at presidents' meeting, held April 29, 1890: —

Present: Messrs. C. Vanderbilt, Depew, Hayden, Webb, Newell, Ledyard, Caldwell, Ingalls, Laying and Bliss.

Resolved, That all freight cars hereafter built by the roads in the Vanderbilt system, and by the Boston & Albany, shall be equipped with the air brake; and that all colored line and local box and stock cars of thirty-four feet in length and upwards, now in service on said roads, shall have the air brake attached as fast as they come into the shop for repairs; and that all such cars so built or repaired shall also be equipped with a self-coupler, of what is known as the vertical plane type.

In our own State, however, the trend of opinion among railroad managers and employees has lately been adverse to the adoption of couplers of the Master Car Builders' type.

Early in the year the New England Railroad Club issued the following circular: —

New England Railroad Club,
Boston, Feb. 28, 1890.

To the Freight Train and Yard Men of ——— Railroad.

The New England Railroad Club has assigned, as the subject for discussion at its monthly meeting in March next, "Freight-Car Couplers." This subject, which has occupied the minds of railroad managers for several years, and is still unsettled, has now attained a new interest, from the fact that the President of the United States, in his message to the present Congress, has called its attention to this matter, and legislation is proposed making it compulsory on the railroad companies to adopt and use, within a given period, an automatic freight-car coupler.

As this proposed legislation is based entirely upon the object of lessening the danger to employees engaged in handling cars, we deem it fair that these men should be given an opportunity to express their ideas as to the form of coupler which best combines uniformity, automatic action and safety.

With this view, the New England Railroad Club proposes, with the co-operation of the managements of the different railroads in New England, to get the opinion of every person engaged in coupling freight cars as to the safest and best coupler. The management of your road has kindly consented to forward your replies to the undersigned. Please sign your names in the form below, under the type of coupler which you recommend.

(Signed) Francis M. Curtis,
Secretary.

In response to the above circular, 1,948 votes were received, distributed as follows: in favor of the Safford Coupler, 1,239; Janney, 557; old-fashioned link and pin, 63; Boston Automatic, 30; Gould, 26: Miller, 25; Marks, 5; Dowling, 2; Cowell, 1.

One reason why employees object to the Master Car Builders' type is because it is so difficult and dangerous to couple it to any other type, by the use of a link and pin. In this State two cars equipped with the Master Car Builders' type are seldom found together; consequently, the link and pin must generally be used with such couplers. There is no question that, until uniformity is secured, the presence of isolated cars equipped with the Master Car Builders' type increases rather than diminishes the danger. If the present lack of uniformity is to continue, a link and pin coupler like the Safford, with a movable projection arranged to hold up the pin while the cars are coming together, is as safe as any yet devised.

Among the superintendents of rolling stock of our main lines of traffic, the opinion prevails that the Master Car Builders' type is not and can not be made strong enough to withstand the blows to which it must be subjected in our terminal traffic. Their experience seems to be that the percentage of such couplers broken or disabled is excessively large. They object to the adoption of the Master Car Builders' type on the ground that the expense of keeping it in repair will be too great. It is admitted that the percentage of breakage would not be so large if no couplers were used except those of the Master Car Builders' type; but, on the other hand, it is claimed that the durability of couplers of the Master Car Builders' type cannot be judged simply by watching their operation on through trains, where there is comparatively little coupling, but that the results of use in our terminal yards should also be considered.

While this discussion as to the merits of the various couplers is going on, brakemen are being unnecessarily mutilated and killed. These accidents will practically cease when every freight car is equipped with a coupler which will couple automatically with the coupler on any other freight car, and which a brakeman can uncouple without being obliged to go between the cars.

An extended discussion as to the best means of securing uniformity in freight-car couplers, together with a large amount of instructive correspondence upon the subject, was contained in the third annual report of the Interstate Commerce Commission, under date of Dec. 1, 1889. After a statement of the arguments in favor of and in opposition to congressional action in the premises, that Board declares that it is not prepared to recommend a national law prescribing the kind of coupler to be used in interstate commerce, and further expresses the opinion that there are conclusive reasons against the institution of an administrative agency with power to enforce upon railroads the use of particular appliances.

While it is clearly inadvisable for Congress to pass any law prescribing the exact coupler to be used, or giving to the Interstate Commerce Commission or any commission the power to require the use of a specified coupler, this Board contends that it is advisable, and that a reasonable regard for the lives and limbs of brakemen demands that Congress should authorize the Interstate Commerce Commission or some commission to prescribe certain conditions which freight-car couplers must fulfil.

The determination of the conditions which are to be fulfilled should not limit the railroad companies to any specified coupler, but can and should so limit them that every coupler, no matter how constructed, will couple automatically and safely with every other coupler. To define the contour lines of a coupler neither takes away from the railroad company its responsibility for poor material or for poor design. The limitation of the gauge of a railroad to four feet eight and one-half inches promotes uniformity, but it does not relieve railroad companies from responsibility for the safe construction of their tracks.

Those who oppose congressional action have urged that the great trunk lines of railroad are actually equipping their freight cars with couplers of the Master Car Builders' type and with power brakes as fast as possible. There are about a million freight cars in the country. Estimates made at the beginning of the year 1890 indicated that there were then about fifty thousand cars equipped with the Master Car Builders' type of coupler, and about fifteen thousand fitted with other automatic couplers. At the beginning of the year 1888 the number of cars fitted with the Master Car Builders' type was about six thousand. The additional number of cars so equipped during the year 1888 was fifteen thousand, and during the year 1889 over thirty thousand. The statistics for the year 1890 are not yet accessible, but it is believed that the increase has been as great, if not greater, than during the year 1889. This progress is remarkable, and yet, if it is unaided, many years will elapse before uniformity and safety are secured.

In its efforts to secure action by Congress and by the Interstate Commerce Commission upon this subject, the Board desires the endorsement and the assistance of the Legislature.

The President of the United States, in his message to Congress under date of Dec. 1, 1890, called attention to the subject in the following paragraph: —

> It may still be possible for this Congress to inaugurate, by suitable legislation, an amendment looking to uniformity and increased safety in the use of couplers and brakes upon freight trains engaged in interstate commerce. The chief difficulty in the way is to secure agreement as to the best appliances, — simplicity, effectiveness and cost being considered. This difficulty will only yield to legislation which should be based upon full inquiry and impartial tests. The purpose should be to secure the co-operation of all well-disposed managers and owners; but the fearful fact that every year's delay involves the sacrifice of two thousand lives and the maiming of twenty thousand young men should plead both with Congress and the managers against any needless delay.

Biennial Examination of Couplers for Freight Cars.

In accordance with the provisions of Statutes 1884, chapter 222, and Statutes 1886, chapter 242, an examination and test of automatic and other safety couplers for freight cars was made last July.

Hitherto various couplers have been approved under their patent names. The Board deems that it is both unnecessary and inexpedient to continue in the same course with reference to the various patented couplers of the Master Car Builders' type, and it hereby issues a general approval of that type of coupler. Under this approval the companies can select such design or designs conforming to the contour lines of that type as they may deem expedient, and the responsibility for selecting a make which is durable and efficient rests with them.

The couplers heretofore approved are the Janney, the Hilliard Automatic, the Cowell, the United States Automatic, the Ames Automatic, the Boston Automatic and the Safford Automatic. The Master Car Builders' type is now added to the list.

The Board has in contemplation action looking to a revocation of some of the approvals heretofore issued.

The Bell Rope.

On most of our trains the bell rope is a delusion. To pull the rope so as to ring the bell on the engine requires skill as well as strength even on short trains, and on the last cars of long trains is practically impossible. While the air-brake handle in cars is a valuable instrumentality for stopping a train in an emergency, it is clear that some better or additional means of communicating with the engineer ought to be supplied. If no one of the many devices intended to meet this need is worthy to supplant the bell rope, some of them are at least valuable as supplementary to it.

Electric Street Cars.

In the last annual report attention was called to the necessity of regulating the speed of electric cars, and of equipping them with more efficient fenders. (Report 1890, pp. 50 and 51.) That the fears and the warning of the Board were justified has been proved by several accidents during the past year, and especially by the distressing circumstances attending a fatal accident which occurred on the 17th of February last, and in regard to which a report is contained in the appendix.

The Board early in the year made some experiments to discover how quickly an electric car can be stopped in case of an emergency. Full details of these experiments may be found in the appendix. As a special car was provided by the company for the purpose of making the tests, it is probable that the results obtained were at least as good as the average.

The following is a consolidated statement of the results : —

Consolidated Statement of Results of Brake Tests made on West End Street Railway, 1890.

SPEED.	Minimum stop (feet).	Maximum stop (feet).	Average stop (feet).
7 to 10 miles per hour, . . .	23	71	[7 stops] 49
10 to 12 miles per hour, . . .	42.5	85	[5 stops] 61
12 to 15 miles per hour, . . .	56	95	[7 stops] 79
15 to 21 miles per hour, . . .	61.5	157	[5 stops] 113

The experiments were made in various places; in some cases on a slightly ascending grade, in other places on a level or on a descending grade. In some cases the track was in the best condition, and in other cases it was slippery from snow or moisture. Out of twenty-four stops, no one was made in less than twenty-three feet. As the distance from the dasher of an ordinary single-truck street car to the wheels is only six feet, the need of a fender for the wheels is obvious, even if no greater speed than seven miles an hour is attained.

The result of these brake tests having been reported by the commission to the Legislature, with a recommendation that a law should be passed limiting the speed of cars propelled by any motive power other than horses, unless they were provided with an efficient fender, the Legislature passed an act entitled "An Act relating to fenders and guards for street railway cars." (Statutes 1890, chapter 364.) By that act street railway companies operating cars propelled by any motive power other than horses are required to equip their cars with such fenders and guards as may be required by the Board of Railroad Commissioners, and said Board has power from time to time to modify or increase its requirements.

Upon the passage of the act the Board immediately began an investigation of the subject. A circular of inquiry was issued, and the bridge engineer of the Board was employed to make a special investigation and report. His report will be found in the appendix, and contains a full statement of the information received. Following the report are extracts from communications received from street railway managers from all parts of the country.

It is not difficult to devise a fender which shall work satisfactorily on a double-truck car, the body of which does not oscillate, and which is run on a track where the space between the rails is on a level with or nearly on a level with the top of the rails, and is perfectly smooth and free from ridges or depressions. Such conditions, however, do not prevail. Generally the cars are single-truck cars, and the bodies oscillate so that a fixed fender attached to the end of the car, and six inches above the top of the rail when the car is at rest, might when the car is in motion be raised so as to be a foot above the top of the rails, or be depressed so as to strike the ground. Then, again, the road bed between the rails, as it is actually found, is uneven. In some cases its general level is above the top of the rails, and in other cases several inches below the top of the rails. In some cases there are ridges in it, and in other cases depressions. Outside of our cities, where the road bed is not paved between the rails, such road bed is generally considerably below the level of the top of the rails; while at street crossings and private entrances the road bed between the rails is on a level with the top of the rails. The difficulty of devising a fender which shall meet all these differing conditions is apparent, and, so far as the Board has been able to discover, no such fender has been or can be devised.

The Legislature, therefore, imposed upon the Board a task which it cannot accomplish. If the Board could prescribe the kind of cars to be used and the nature of the roadway between the rails, then it could prescribe an efficient fender. The city or town authorities control the roadway. The railway companies determine for themselves what kind of cars they will use. While the Board can prescribe a fender which shall be better than nothing, even on an oscillating car and on an uneven road bed, still, none has yet been suggested which has seemed to the Board to give reasonable assurance of safety under existing conditions. If the Board fails to prescribe the form of fender to be used, then the street railway companies may by virtue of the act be relieved from the obligation to put on any fenders at all, and in case of an accident may be able to hold up the act as a shield against liability for damages; while, on the other hand, if the Board prescribes a form of fender to be used, no matter how inefficient such fender may be rendered by defects of cars or of roadway, the companies can also, in case of accident, plead that they have applied the fender prescribed by the Board under the provisions of the act, and that they are therefore relieved from all responsibility. Either of these results would be equally unsatisfactory and unfortunate.

An electric car weighs twice as much as a horse car of the same size, while the new twenty-five-foot double-truck box cars of the West End Street Railway Company weigh eight tons, or three times as much as the ordinary horse car. The maximum rate of speed of an electric car is twice as great as that of a horse car, and, as electric power is developed, the attainable speed will be increased. On the horse cars the horses serve as a fender, projecting ten feet in front of the dasher. A person struck by them stands a good chance of being thrown clear of the rails, or of saving himself by catching hold of the harness. An efficient fender on electric cars is a public necessity. The act of last year (Statutes 1890, chapter 364) should be amended so that the responsibility of procuring or devising such a fender shall rest where it belongs, — upon the street railway companies.

From the following statistics of the West End Street Railway Company, it appears that on that road, gauged by mileage, accidents from electric cars are twice as frequent as from horse cars.

Accidents on West End Street Railway for Year ending Sept. 30, 1890.

	To Passengers getting on or off Cars.	To Persons on the Street.	By Collisions with Vehicles.	Total.	
				Horse Cars.	Electric Cars.
Horse cars, ...	74	36	21	131	–
Electric cars, . . .	28	7	26	–	61
Fatally injured, . . .	2	11	1	9	5
Not fatally injured, . .	100	32	46	122	56
Total, ...	102	43	47	131	61
				192	

Accidents on West End Street Railway for Year ending Sept. 30, 1890—Con.

Mileage.	Per cent.	Accidents.	Per cent.
Horse,	81.25	Horse,	63.4
Electric,	18.75	Electric,	30.3
		Miscellaneous,*	6.3
	100.		100.

Mileage of horse cars,	14,353,617	
Accidents by horse cars,		131 or 1 to 109,569 miles run.
Mileage of electric cars,	3,311,743	
Accidents by electric cars,		61 or 1 to 54,291 miles run.

* "Miscellaneous" means accidents not caused by cars in service.

This Board has no authority to control the speed of electric cars. As limitations of speed are from time to time imposed by the city and town authorities, some means of detecting and exposing violations of such limitations will be needed. Such violations will be frequent, because motor-men, having at their command power sufficient to propel their cars at the rate of twenty or thirty miles an hour, will be subjected to irresistible temptations, and because they will frequently be honestly mistaken as to the speed at which they are travelling.

Apparatus connected with the axle might be so arranged that a bell will ring so long as the speed is greater than that allowed. A driver would not continue to go at a forbidden speed if a bell or gong was constantly reminding the passengers as well as him of the fact. As the limitations of speed may vary for different portions of the same route, the system should be such that the conductor can readily set it for any permitted speed.

It seems probable that, the rate of speed being the same, there is as much danger to the public from an electric car as from a horse and wagon. Much as rapid transit is desired, and much as it will accomplish in saving of time and in promoting the comfort of those using the cars, it must be admitted that there will be extraordinary peril to life and limb whenever cars are propelled through our streets on a level therewith at a rate of speed materially greater than that permitted to other vehicles, unless the whole street or at least a portion of it is devoted exclusively to the use of the railway. It is the old question as to what sacrifice of life and limb is justified for the sake of promoting the convenience of the public.

The following table gives statistics in regard to the electrical operation and construction of street railways as of the 30th of September.

RAILWAY.	Miles of Electric Road, Overhead System, in Operation Sept. 30, 1890.	Miles of Electric Road, Storage Battery, in Operation Sept. 30, 1890.	NAME OF SYSTEM.	Speed of Cars per Hour, where unimpeded by Horse Cars.	Miles of Electric Road, Overhead System, under Construction Sept. 30, 1890.	Miles of Electric Road, Storage Battery, under Construction Sept. 30, 1890.
Attleborough, North Attleborough & Wrentham, ...	6.000	–	Thomson-Houston, .	9 miles,	–	–
Beverly & Danvers, .	–	3.090	Union Electric Car, .	–	–	–
Boston & Revere, . .	3.800	–	Thomson-Houston, .	12 miles,	–	–
East Side, ...	4.250	–	Sprague, . . .	8 "	–	–
Essex, ...	–	–	Franklin Electrical Co.,	–	3.910	–
Gloucester, ...	–	–	Daft Double-trolley, .	–	4.000	–
Hoosac Valley, . .	5.953	–	Thomson-Houston, .	9 miles,	–	–
Lowell & Dracut, . .	5.210	–	Bentley-Knight, .	8 "	–	–
Lynn Belt, ...	6.290	–	Thomson-Houston, .	7 "	–	–
Lynn & Boston, . .	17.811	–	Thomson-Houston, .	8 "	.940	–
Manet, ...	3.600	–	Sprague, . . .	11 "	–	–
Marlborough, . .	2.939	–	Sprague, . . .	6 "	–	–
Milford & Hopedale, .	–	–	Union Electric Car Co.,	–	–	6.000
Naumkeag, ...	9.667	–	Edison, . . .	6 miles,	12.000	–
Newton, ...	5.480	–	Thomson-Houston, .	8 "	–	–
Newburyport & Amesbury, ...	7.000	–	Thomson-Houston, .	10 "	4.100	–
Plymouth & Kingston,	4.250	–	Thomson-Houston, .	6 "	–	–
Quincy & Boston, . .	7.560	–	Thomson-Houston, .	11 "	–	–
Springfield, . . .	2.500	–	Thomson-Houston, .	8 "	–	–
Union, ...	–	–	Thomson-Houston, .	–	3.500	–
West End, ...	65.461	–	Thomson-Houston, .	12 miles,	–	–
	157.771	3.090	–	–	28.450	6.000

RAPID TRANSIT IN THE CITY OF BOSTON.

It is generally admitted that the need is imperative for some means of transit to and through the heart of the city, more rapid than that furnished by the present street-car system. Upon the correct solution of the problem depends the comfort and convenience of the citizens and the growth and prosperity of the city. The evil effects of injudicious action will continue for generations. Make-shifts and temporary expedients will do more harm than good. They mean stagnation, not progress. The plan should be comprehensive, and ample provision should be made for future growth. It is probable that radical and expensive changes in present conditions will be requisite. The responsibility for wise action in the premises rests upon the city government. Seldom has a problem of greater importance been presented to it.

In solving the problem, the requirements of our steam railroads for enlarged and improved terminal accommodations should be considered. The present accommodations for the lines entering the city on the north are notoriously inconvenient, inadequate and unfit. A union passenger station for those lines must soon be built, and its location is a material element in the rapid transit problem.

Brake Power.

In the last annual report attention was called to the lack of proper brake power on passenger trains, and in the report on the Quincy accident and in the paper annexed to the report and prepared by Prof. George F. Swain (See Appendix), the duty of having the most efficient brakes attainable is emphasized. No company can afford to disregard the warning given by the Quincy accident. The Old Colony Railroad Company has already begun to profit by its experience. On the 22d of December it reported that since the accident the brakes on thirty passenger cars had been changed to the quick-acting system, that driver brakes had been applied to three engines, and that on eight engines alterations had been made so that the driver and train brake should be operated together.

In the matter of brakes for freight trains the need of reform is even more imperative than in the case of passenger trains. The feasibility and the great advantage of the power-brake system on freight cars has been demonstrated, and is known to every railroad man. The statistical report of the Interstate Commerce Commission for the year ending June 30, 1889, shows that there were then in the United States sixty-six thousand freight cars equipped with power brakes. This was about seven per cent of the total number. From the table given in the report on the Quincy accident it appears that thirty-five thousand freight cars are owned by the companies making returns to this Board, and that of these about eleven hundred have been equipped with power brakes. This is about three per cent. of the whole number of freight cars owned by these corporations, while, as has been shown above, seven per cent. of all the freight cars of the United States have been so equipped. Our

Massachusetts corporations should not drag behind in this matter, but should set a good example.

The brake efficiency on the average freight train in this State is probably less than one-half what it would be if all freight cars were equipped with power brakes on both trucks. This is due in part to the waste of time in setting brakes by hand, and in part to the fact that a majority of the freight cars, as found in this State, have brakes only on one truck. The peril to our passenger service from freight trains lacking adequate brake control is extreme.

The necessity for greater brake power grows rapidly in importance as the number of passenger and freight trains increases. Shippers are constantly demanding faster freight service, and yet the brake control of freight trains is so deficient that a reasonable regard for safety demands that the speed of such trains should be diminished rather than increased.

The equipment of freight trains with power brakes is demanded also for the safety of train men. The brakeman's task of setting the hand brakes on a freight train is exceedingly and unnecessarily dangerous. The cars vary in height; the running-boards vary in width and in construction; some extend beyond the body of the car, others do not; the brake apparatus is often in poor condition; sometimes the brake wheel comes off, and sometimes the winding staff works up out of its socket; some brakes are arranged so that a brakeman can operate them while standing on the top of the car, and others are arranged so that a brakeman must step down on a platform at the end of the car; only a small proportion of the cars have the protection of a guard rail round the brake head. All these things ought to be corrected, but most important of all is the equipment of freight cars with power brakes. When this is done, brakemen will in great measure be relieved from the necessity of travelling over the tops of cars while on the road. This reform will save dollars, as well as lives. The difficulties in the way, though similar to those encountered with reference to automatic couplers for freight cars, are not so great, inasmuch as there is not so much diversity of opinion as to the conditions which power brakes should fulfil. The two reforms go together, and should be pushed persistently.

Legislation of 1890.

The provisions of Statutes 1882, chapter 244, authorizing the formation of relief societies by the employees of railroad and steamboat corporations, were extended to street railway companies. (Statute 1890, chapter 184.)

In addition to the law relating to the abolition of grade crossings and the law relating to fenders upon street cars, each of which is separately discussed herein, the Legislature also, in accordance with the suggestion made in the last annual report, passed the following general laws : —

An act permitting street railway companies, with the approval of the Board, to reduce their capital stock (Statutes 1890, chapter 326), and an act relating to crossings at grade by railroads for private use (Statutes 1890, chapter 382).

This latter statute enables the Board, when an application is made to it to permit a crossing of a way or travelled place by a railroad for private use, to limit the number of tracks, and to impose such other conditions in relation to the use of the crossing by said railroad as may be deemed expedient, and to modify from time to time such limitations and conditions as circumstances may require. The Board has frequently felt the need of the authority conferred upon it by this act. For action taken by the Board under this act, see Appendix.

Sundry Recommendations as to Legislation.

The Board renews the recommendations made in the last annual report, that a law should be passed providing that no right of way across or on the location of a railroad shall hereafter be acquired by prescription ; that section 115 of chapter 112 be amended so that railroad companies shall be obliged by law to erect gates or bars at private grade crossings ; and that some method be provided by which a railroad company may, at its own expense and upon the payment of all damages, separate grades at private crossings or abolish private crossings, furnishing, if necessary, a substitute way.

The recommendation contained in the twentieth annual report and repeated in the last annual report, as to legislation governing the creation of new crossings at grade, is also renewed. Now that the State has expressed its willingness to pay one-quarter of the expense of abolishing any existing grade crossing, the argument in favor of legislation guarding against the creation of new crossings at grade, and limiting their use by railroad companies, seems more potent than ever. (See Report 1889, page 84; Report 1890, page 33.)

Recommendations to the Companies.

In the last annual report the Board called the attention of the Legislature to the fact that its recommendation to the Boston & Albany Railroad Company, in relation to running an additional passenger train from Milford to South Framingham in the morning and from South Framingham to Milford in the afternoon, had not been complied with. By Statutes 1890, chapter 352, the Board was authorized, after due notice to the Boston & Albany Railroad and a hearing, to order said company to run such additional passenger trains on the Milford branch as to it might seem just and proper. Under said statute a petition was filed with the Board and notice of a hearing given, but at the time appointed the Boston & Albany Railroad appeared and signified its intention to run trains as previously recommended. No order was therefore issued by the Board, and the trains are being run.

Once more it is necessary to report to the Legislature that the New York & New England Railroad has not yet provided an adequate and suitable station at Norwood Centre.

The recommendations of the Board in relation to the relocation of passenger and freight stations in the town of Uxbridge, as contained in the last annual report, are being carried out by the joint action of the town and the New York, Providence & Boston Railroad, as lessee of the Providence & Worcester Railroad.

General Summary Relating to Accidents.

During the year ending June 30, 1890, the number of casualties reported to the Board from time to time as they have occurred was 730. Of these, 109 were accidents to passengers, 346 to employees, 73 to travellers at grade crossings or persons lawfully at stations, and 201 to trespassers. Of the total number, 241 were fatal and 486 were not fatal. The number of casualties in this State as reported in the annual returns of the railroad companies for the year ending June 30, 1890, was 711. This number falls short of the number of accidents as made up from the reports of individual cases. It seems probable that the larger number is more nearly correct.

The tables of accidents in the Appendix, as heretofore, cover the year ending September 30. Next year being the first year of the last decade of this century, these tables will be made up for the year ending June 30, thus conforming to the other returns.

During the year ending September 30 the total number of persons killed and injured on the railroads within this State, as reported to this Board, was 830, the last three months swelling the number much above the average. Of the whole number, 257 were killed and 573 were injured; 171 were passengers, 389 were employees, 70 were travellers at grade crossings or lawfully at stations, and 199 were trespassers; 53 were children and 777 adults. Of passengers, 21 were killed and 67 were injured by causes beyond their own control, and 17 were killed and 66 injured through their own fault or want of care. The number of passengers injured was about three times as many as in the preceding year, due partly to three train accidents; viz., the Quincy disaster, a collison near Chickering station on the Providence division of the Old Colony Railroad, and a slight collison on the Boston & Maine Railroad. Not only were there more passengers injured by causes beyond their own control, but there was also a larger number injured, fatally or otherwise, by their own recklessness in getting on or off moving trains. Of this class of accidents the Boston & Maine reported twice as many as all the other roads. On that road, in this class 9 were reported as fatally hurt and 50 as injured. The Old Colony, on the other hand, while reporting 5 fatal accidents of this class, reported only 1 that was not fatal. The records indicate that portions of the Boston & Maine have for many years had an excess of imprudent passengers. The explanation may be that the other roads do not report so fully minor accidents of this class, or it may be that, in case of doubt as to the responsibility for the accidents, the Boston & Maine Railroad takes for itself more freely the benefit of the doubt. The Boston & Maine carried 29,613,549 passengers within and beyond the State. The number of passengers reported as killed or injured by their own imprudence equals one in every half-million of the total number so carried. The Old Colony carried 21,305,226 passengers, almost wholly within the State, and reports only one in three and one-half millions injured by his own recklessness. So on the Boston & Albany only one in two and three-quarters millions of all its passengers was so injured.

The number of employees killed was 68, injured 321, making a total of 389, being 74 more than in the preceding year. Of these, 6 were killed and 152 were injured, more or less severely, when coupling or uncoupling cars; an increase of 18 over the like cases in 1889 and 54 above the average for ten years. Nineteen were injured by contact with overhead structures, 5 of them fatally; 1 was killed and 17 were injured by train accidents, a decrease of 1; 23 were killed and 52 were injured by falling from freight cars or engines, an increase of 18 over the preceding year; 33 were killed and 86 were injured by various accidents, an increase of 22. Among these "various accidents" were standing or walking too near the track, 20; incautiously stepping in front of a train or engine, 9; attempting to board a moving train, or jumping from a train or engine in motion, — all of which were due to want of care.

Nine persons were killed and 11 were injured at grade crossings protected by gates or flagmen, and 9 were killed and 17 were injured at crossings without such protection. The total number killed and injured at all crossings was 46, as against 56 last year, and 59 the year preceding. The average number of casualties at grade crossings for ten years is 45.9.

At stations 7 persons were killed and 17 were injured when crossing the track or attempting to board moving trains, being 2 less than last year.

The total number of trespassers killed and injured was 199, or two more than in the preceding year; 157 were unlawfully on the track, and 41 were unlawfully on or attempting to board freight trains. Four of the deaths were reported as evidently suicides, and the circumstances of several others render it probable that they should be placed in the same category.

As observed in former reports, the ratios of accidents, as reported by the several roads, to miles of track operated in Massachusetts, differ widely, as shown by the following table : —

RAILROADS.	Miles of Track operated in Massachusetts.*	Number of Accidents.	Ratio of Accidents to Miles operated.
Boston & Albany, ...	669.95	106	1 to 6.66 miles.
Boston & Maine, ...	819.77	351	1 to 2.33 "
Fitchburg, ...	549.79	103	1 to 5.33 "
New York & New England, . .	256.21	62	1 to 4.13 "
Old Colony, ...	905.92	156	1 to 5.81 "
Cheshire, ...	26.44	1	1 to 26.44 "
Connecticut River, ...	137.85	11	1 to 12.17 "
New London Northern, . . .	64.08	2	1 to 32.04 "
New York, New Haven & Hartford,	96.14	5	1 to 19.23 "
New York, Providence & Boston, .	69.05	26	1 to 2.65 "

* Computed as single track, and including sidings.

The total number of passengers carried by the railroads of this State (including those carried outside the limits of the State) in the year ending June 30, 1890, was 98,843,712. The number of passengers killed or injured within the State during the same period was 109, of whom none were killed and 35 were injured by causes beyond their own control. The ratio of these casualties to the total number of passengers carried cannot be accurately given, as we do not have the number of passengers carried in Massachusetts; but it may safely be assumed that at least 80 per cent. of the total number of passengers carried by the various railroads performed part or the whole of their journey within this State, or, say, 80,000,000. On this basis, none were killed in 80,000,000 carried, and 1 was injured to every 2,285,714 carried. This showing is creditable, compared, for instance, with the accidents on the railroads of Great Britain in 1889, where 1 passenger in 8,808,875 was killed, and 1 in 762,975 was injured, by causes beyond their own control; or as compared with the accidents on the railroads of the United States, as reported to the Interstate Commerce Commission, where, for the year ending June 30, 1889, 1 passenger in 1,523,133 was killed, and 1 in 220,024 was injured. The next quarter, however, by a single disaster, changed this favorable showing; and for the year ending September 30, on the same basis of passengers carried, the ratio of passengers killed on Massachusetts roads by causes beyond their own control was 1 in 3,852,380, and of passengers injured was 1 in 1,207,462.

The statistics of a single year, however, do not afford a very fair view of the general safety of passengers on railroads, as the ratio of passengers injured to the total number may in one year be very small, and in the next, by reason of some uncommon disaster, be very large. During the last six years, which include two disastrous years, the number of passengers killed on Massachusetts roads by causes beyond their own control was 65, or 1 in 7,852,734 passengers carried (including those carried outside of the State); and the number injured was 313, or 1 in 1,630,763, as shown in the following table: —

YEAR.	Killed.	Injured.
1885, ...	0 in 69,603,700	1 in 5,800,308
1886, ...	1 in 7,584,258	1 in 2,166,931
1887, ...	1 in 3,605,363	1 in 685,317
1888, ...	1 in 7,473,867	1 in 1,494,773
1889, ...	0 in 93,529,299	1 in 9,352,929
1890, ...	1 in 4,706,843	1 in 1,475,279
Average, ...	1 in 7,852,754	1 in 1,630,763

The following table shows the number of passengers injured within the State, from causes beyond their own control, on the principal roads, during the year ending Sept. 30, 1890, and the ratio of such accidents to the whole number of passengers carried by such roads, within and without the State: —

RAILROADS.	Passengers Killed and Injured.	Total Passengers Carried.	Ratio of Injuries to Passengers Carried.
Boston & Albany,	0	11,002,597	0 in 11,002,597
Boston & Maine,	16	29,613,549	1 in 1,850,846
Fitchburg,	0	5,895,202	0 in 5,895,202
New York & New England,	0	7,637,290	0 in 7,637,290
Old Colony,	72	21,305,226	1 in 295,921
Connecticut River,	0	1,870,734	0 in 1,870,734

The following table shows the per cent. which the number of employees killed and injured on the principal roads of Massachusetts bears to the total number of employees of those roads both within and beyond the State limits: —

RAILROADS.	Total Employees.	Number Injured in Massachusetts.	Per cent. of Whole Number.
Boston & Albany,	5,261	55	.014
Boston & Maine,	9,661	185	.019
Fitchburg,	4,487	55	.012
New York & New England,	4,184	43	.013
Old Colony,	6,002	36	.006

This indicates that the employees of the Old Colony are more fortunate than those of the other roads, or that the minor accidents on that road are not duly reported.

The ratio of casualties at grade crossings to the total number of such crossings on the principal roads and on all the roads in the State is shown in the following table: —

RAILROADS.	Number of Grade Crossings.	Persons Injured.	Ratio of Accidents to Grade Crossings.
Boston & Albany,	294	9	1 to 32.66
Boston & Maine,	555	21	1 to 26.43
Fitchburg,	235	8	1 to 29.37
New York & New England,	152	1	1 to 152.00
Old Colony,	683	5	1 to 136.66
Connecticut River,	49	1	1 to 49.00
All roads,	2,234	47	1 to 47.53

The number of trespassers killed and injured, compared with the number of miles of track operated, is shown in the following table: —

RAILROADS.	Miles of Track operated in Massachusetts.	Persons Killed or Injured.	Ratio of Trespassers to Miles of Track.
Boston & Albany,	669.95	36	1 to 18.61 miles.
Boston & Maine,	819.77	61	1 to 13.43 "
Fitchburg,	549.79	30	1 to 18.32 "
New York & New England,	256.21	12	1 to 21.35 "
Old Colony,	905.92	31	1 to 29.22 "
Connecticut River,	137.85	8	1 to 17.23 "
New London Northern,	64.08	2	1 to 32.04 "
New York, New Haven & Hartford,	96.14	1	1 to 96.14 "
Providence & Worcester,	69.05	14	1 to 4.93 "
Boston, Revere Beach & Lynn,	28.20	3	1 to 9.40 "
Housatonic,	46.60	1	1 to 46.60 "
All roads,	3,923.84	199	1 to 19.71 miles.

Railroad Construction.

During the year ending June 30, 1890, there were returned as constructed the following additional miles of railroad in this State: —

Old Colony (Wrentham Br.),	12.850
Grafton & Upton,	8.500
Prov., Web. & Springfield (Webster Br.),	1.170
	22.520
And there was a net decrease by remeasurements, abandonments, resumptions and changes in line, of,	.420
Additional miles,	22.100

Mileage of Railroads.

The total length of railroads belonging to the corporations making returns to this Board was 3,209.624 miles of main line and branches, of which 1,098.499 were provided with double track. Last year the total length was 3,090.739 miles, with 1,086.569 miles of double track; showing an increase of 118.885 of total length, and an increase of 11.930 miles of double track. The total length of sidings was 1,516.275 miles, as against 1,448.644; showing an increase of 67.631 miles. The total length of track, considering double track and sidings as so much additional single track, is 5,824.398 miles as against 5,625.952 of last year; the increase being 198.446 miles. Of the whole amount there are in this State of main line 2,088.872 miles, of double track 795.599, and of sidings 1,052.225 miles, being a total of 3,936.696, as against 3,869.000 miles of last year; showing an increase of track in this State of 67.696 miles.

Cost of Roads.

The average cost of standard-gauge roads is returned at $69,846.97 per mile; the cost of equipment per mile operated averages $6,915.05, — making the average cost of a standard-gauge road, with equipment, $76,762.02. The cost of narrow-gauge roads averages $34,853.04 per mile, and $7,391.13 per mile additional for equipment.

NUMBER OF CORPORATIONS.

Returns were received from fifty-five corporations, — fifty-four railroad and one canal company. The Long Beach company has been dropped from the list, the construction of the contemplated road having been abandoned.

CAPITAL STOCK AND DEBT.

The aggregate capital stock was $157,243,516.15, an increase of $5,461,812.13, resulting from an increase of the capital stock of the following roads : —

New York, New Haven & Hartford,	$3,100,000 00
Providence & Worcester,	498,100 00
Old Colony,	400,000 00
Boston, Revere Beach & Lynn,	150,000 00
New York & New England (preferred),	116,300 00
Central Massachusetts,	24,368 33
Norwich & Worcester,	22,500 00

There was also an increase in the capital stock of the Boston & Maine Railroad of $9,297,743.80, resulting from the purchase of the Eastern Railroad and the Portsmouth, Great Falls & Conway Railroad. On the other hand, the capital stock of the Eastern Railroad Company, amounting to $8,147,443.80, has been dropped from our accounts, it now being included in the Boston & Maine Company.

The net debt of the companies — the gross debt less cash assets — amounts to $104,715,044.63, a decrease of $1,377,537.99. In computing the net debt the sum of $4,425,525.71 being materials and supplies on hand, and the sum of $4,307,005.59 being certain items carried on the books of the companies as " other assets," have not been included in the deduction of cash assets. The cash assets of all the railroad companies of the State have increased by the amount of $1,292,277.66. The returns for the last seven years are as follows : —

YEARS.	Stock.	Net Debt.
1884,	$127,668,390 27	$74,439,473 75
1885,	128,551,658 54	73,706,622 04
1886,	130,687,969 02	71,012,497 49
1887,	150,469,414 02	81,646,094 60
1888,	151,076,704 02	92,088,750 60
1889,	151,781,704 02	106,092,582 62
1890,	157,243,516 15	104,715,044 63

The capital stock and net debt per mile of road owned of a few of the corporations is as follows: —

NAME OF ROAD.	Miles of Road Owned.	Miles of 2d, 3d and 4th Tracks.	Total Miles as Single Track.	Capital Stock and Net Debt per Mile of Road Owned.	Capital Stock and Net Debt per Mile as Single Track.
Boston & Albany,	305.89	236.61	542.50	$99,386 06	$56,040 77
Boston & Maine,	315.70	104.95	420.65	112,350 93	84,319 96
Boston & Lowell,	98.09	42.20	140.29	121,545 15	84,983 71
Central Mass.,	98.77	–	98.77	95,342 94	95,342 94
Boston & Maine, Boston & Lowell and Central Mass.,	512.56	147.15	659.71	110,833 03	86,111 44
Fitchburg,	299.05	102.90	401.95	129,821 56	96,586 99
N. York & N. England,	359.86	108.10	467.96	110,649 87	85,089 46
Old Colony,	482.38	116.15	598.53	52,101 13	41,990 45
Boston & Providence,	63.75	58.04	121.79	96,571 55	50,549 60
Old Colony and Boston & Providence,	546.13	174.19	720.32	57,292 18	43,437 61

GROSS EARNINGS.

The total gross earnings from operation of the roads are $59,230,760.62, an increase of $3,373,859.77 over 1889, when they amounted to the sum of $55,856,900.85; the operating expenses amounted to $39,660,713.43, an increase of $2,007,977.36 over 1889, when they were $37,652,736.07; the net income from operation is $19,570,047.19, an increase of $1,365,882.41 over last year, when it amounted to the sum of $18,204,164.78. The income from lease of road is $4,909,128.96, an increase of $1,052,877.13 over that of 1889, when this item was $3,856,251.83; the income from other sources is $1,479,445.78, an increase over last year of $218,769.17, when it amounted to the sum of $1,260,676 61, making the total income — less operating expenses — of these corporations amount to $25,958,621.93, being an increase of $2,637,528.71 over the year 1889, when this item amounted to the sum of $23,321,093.22.

The total deductions — being interest, taxes, rentals and organization expenses — amounted to $15,228,544.03, an increase of $949,220.82 over last year, when these deductions amounted to the sum of $14,279,323.21, leaving for this year an amount applicable to dividends of $10,730,077.90, an increase over the year 1889 of $1,688,307.89, when it amounted to the sum of $9,041,770.01.

The earnings from the passenger department were $29,437,711.97, an increase of $1,283,162.55 over the year 1889, when they amounted to $28,154,549.42. The earnings from the freight department were $29,225,214.19, an increase of $2,161,150.62 over those of last year, which amounted to $27,064,063.57.

The "express, mail and other" earnings included in the total passenger earnings, as given above, amounted to $2,874,935.64, being an increase of $116,523.07, this item having been, in 1889, $2,758,412.57.

The earnings from "elevators," etc., included in the total freight earnings, were $561,918.84, being an increase of $20,494.84 over last year, when they amounted to $541,424.

The "other earnings" from operation amounted to $567,834.46, a decrease of $70,453.40 from the year 1889, when this item was $638,287.86.

YEARS.	Total Transportation.	Increase or Decrease from Previous Year.	Percentage.
1880-81, ...	$35,936,302 87	–	–
1881-82, ...	39,094,369 25	$3,158,066 38	8.79
1882-83, ...	41,635,800 39	2,541,431 14	6.50
1883-84, ...	41,456,977 30	178,823 09*	0.43*
1884-85, ...	41,742,340 99	285,363 69	0.69
1885-86, ...	46,171,689 24	4,429,348 25	10.61
1886-87, ...	50,068,658 34	3,896,969 10	8.40
1887-88, ...	53,720,034 83	3,651,376 49	7.29
1888-89, ...	55,856,900 85	2,136,866 02	3.98
1889-90, ...	59,230,760 62	3,373,859 77	6.04

* Decrease.

The following tables show the passenger and freight earnings for the past ten years, and the comparative amount of passenger and freight mileage during the same period: —

YEARS.	Passenger Earnings.	Freight Earnings.	Other Earnings.
1880–81, ...	$17,328,495 48	$18,607,807 39	–
1881–82, ...	19,567,274 71	19,527,094 54	–
1882–83, ...	20,602,289 13	21,033,511 26	–
1883–84, ...	21,207.200 42	20,249,776 88	–
1884–85, ...	21,549,369 27	20,192,971 72	–
1885–86, ...	23,331,325 71	22,840,363 53	–
1886–87, ...	25,285,736 69	24,782,921 65	–
1887–88, ...	27,368,655 77	26,351,379 06	–
1888–89, ...	28,154,549 42	27,064,063 57	$638,287 86
1889–90, ...	29,437,711 97	29,225,214 19	567,834 46

Passenger and Freight Mileage.

YEARS.	Total Passenger Mileage.	Total Freight Mileage.
1880–81, ...	788,422,761	1,080,802,796
1881–82, ...	892,321,207	1,130,070,652
1882–83, ...	943,245,658	1,220,824,418
1883–84, ...	1,007,136,376	1,229,368,472
1884–85, ...	1,041,628,073	1,266,160,455
1885–86, ...	1,124,148,045	1,391.626.438
1886–87, ...	1,242,031,078	1,517,932,012
1887–88, ...	1,303,094,023	1,685,923,614
1888–89, ...	1,356,281,981	1,771,581,781
1889–90, ...	1,458,149,088	1,976,652,769

The increase of passenger mileage — or passengers carried one mile — for the year amounts to 101,867,109. The increase of freight mileage, or tons of freight carried one mile, amounts to 205,070,988. The total number of passengers carried was 98,843,712, showing an increase of 5,314,413 over the previous year. The whole number of tons of freight carried was 27,944,501, as against 25,482,103; showing an increase of 2,462,398 tons.

GROSS EARNINGS PER MILE OF ROAD.

The average sum earned on each mile of main track and branch operated was $14,983.75; or, computing double track as additional single track, the average per mile was $11,724.22. The average earnings from operation per mile, on the seven roads of standard-gauge terminating in Boston, was $14,577.92.

Cost of Operating.

The following table shows the cost of operating the roads during the past ten years, and the percentage of operating expenses, not including taxes, to gross receipts: —

YEARS.	Cost of operating per Mile of Road.	Percentage of Operating Expenses to Gross Receipts.
1880–81,	$8,146 15	68
1881–82,	8,603 10	69
1882–83,	9,192 56	71
1883–84,	8,062 12	66
1884–85,	7,460 50	62
1885–86,	8,147 84	63
1886–87,	8,416 72	64
1887–88,	9,320 43	65
1888–89,	9,545 96	64
1889–90,	10,033 07	67

Dividends.

The total amount of dividends declared was $8,450,560.39, an increase of $1,070,193.64 from last year. Of the 54 railroad corporations 36 paid dividends varying from 1 to 10 per cent. The following table shows the amount paid in dividends by all the corporations for ten years, with the percentage to capital stock, and also the amount of interest paid: —

YEARS.	Amount Paid in Dividends.	Percentage to Total Capital Stock.	Interest Paid.
1880–81,	$6,287,866 82	5.15	$3,748,292 55
1881–82,	6,271,139 86	5.10	4,291,222 59
1882–83,	6,379,721 10	5.21	4,756,085 23
1883–84,	6,535,054 92	5.12	4,729,328 56
1884–85,	6,551,704 15	5.10	4,767,095 88
1885–86,	6,857,506 30	5.33	4,810,019 68
1886–87,	7,550,901 61	5.02	4,880,512 85
1887–88,	7,986,226 10	5.29	5,506,299 90
1888–89,	7,380,366 75	4.86	5,909,669 49
1889–90,	8,450,560 39	5.37	5,776,570 08

AMOUNT OF BUSINESS.

The total number of passengers carried during the year on the roads of the companies making returns to this Board was 98,843,712, and each passenger travelled on the average 14.75 miles, making a passenger mileage of 1,458,149,088 miles. The total number of tons of freight carried was 27,944,501; each ton of freight was carried an average of 70.73 miles, being a ton mileage of 1,976,652,769 miles.

The report of the Interestate Commerce Commission shows that for the year ending June 30, 1889, there were carried upon all of the railroads in the United States 472,171,343 passengers; and each passenger travelled on the average 24.47 miles, making a total passenger mileage of 11,553,820,445. The total number of tons of freight carried by the same roads in the United States was 539,639,583; the average haul for each ton of freight was 127.36 miles, showing a ton mileage of 68,727,223,146.

The companies making returns to this Board operate about one-fortieth of the mileage of the roads in the United States, but they carry over one-fifth of the total number of passengers, and a little less than one-twentieth of the tons of freight hauled by the railroads in the United States.

The annual passenger and freight movement on all the roads, for ten years, appears in the following tables: —

YEARS.	No. of Passengers Carried.	No. of Passengers Carried One Mile.	Average Distance Travelled.
1880–81, ...	49,834,491	788,422,761	15.82
1881–82, ...	55,868,694	892,321 207	15.97
1882–83, ...	61,530,747	943,245,658	15.33
1883–84, ...	66,517,265	1,007,136,376	15.29
1884–85, ...	69,603,700	1,041,628,073	14.97
1885–86, ...	75,842,581	1,124,148,085	14.82
1886–87, ...	82,923,364	1,242,031,078	14.98
1887–88, ...	89,686,412	1,303,094,023	14.53
1888–89, ...	93,529,299	1,356,281,981	14.50
1889–90, ...	98,843,712	1,458,149,088	14.75

YEARS.	Tons Freight Carried.	Tons Freight Carried One Mile.	Average Distance each Ton was Carried.
1880-81, ...	17,971,072	1,080.802,796	60.14
1881-82, ...	19,061,164	1,130,070,652	59.29
1882-83, ...	20,202,881	1,220,824,418	60.43
1883-84, ...	20,273,920	1,229,368,472	60.64
1884-85, ...	20,577,096	1,266,160,455	61.53
1885-86, ...	22,925,532	1,391.626,438	60.70
1886-87, ...	24,605,140	1,517,932.012	60.88
1887-88, ...	25,787,383	1,685,923,614	65.38
1888-89, ...	25,482,103	1,771,581,781	69.52
1889-90, ...	27,944,501	1,976,652,769	70.73

The miles run by passenger and freight trains, and the total miles run by all trains for the past ten years, were as follows : —

YEARS.	MILES RUN BY —		
	Passenger Trains.	Freight Trains.	All Trains.
1880-81, ...	12,413,290	10,398,539	27,205,783
1881-82, ...	13,636,169	10,598,126	29,052,800
1882-83, ...	14,244,658	11,382,154	31,150,823
1883-84, ...	15,157,425	11,282,338	32,304,333
1884-85, ...	16,212,988	11,722,667	34,168,999
1885-86, ...	17,268,159	12,303,808	36,441,043
1886-87, ...	18,522,488	13,057,794	39,391,079
1887-88, ...	20,262,326	13,693,603	42,494,669
1888-89, ...	20,316,766	14,008,891	43,082,423
1889-90, ...	21,020,064	15,306,155	45,448,365

AVERAGE EARNINGS PER REVENUE-TRAIN MILE.

The average earnings per revenue-train mile from operation of all the roads, during the year, is $1.617.

The earnings for each revenue-train mile, for each passenger-train mile, and for each freight-train mile, on ten of the principal roads in the State during the past five years, are given in the following tables: —

	Earnings per Total Revenue-Train Mile.				
	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.
Boston & Albany, . .	$1.596	$1.628	$1.717	$1.809	$1.863
Boston & Lowell, . .	1.139	1.225	–	–	–
Boston & Maine, . . .	1.580	1.584	1.472	1.476	1.549
Boston & Providence, . .	1.763	1.802	–	–	–
Fitchburg, ...	1.337	1.417	1.359	1.380	1.430
New York & New England,	1.638	1.646	1.585	1.565	1.544
Old Colony, ...	1.727	1.730	1.743	1.828	1.601
Connecticut River, . .	1.828	1.914	1.955	1.966	1.971
New York, New Haven & Hartford, ...	1.886	1.876	1.822	1.766	1.789
Providence & Worcester, .	2.110	2.192	2.282	2.153	2.218

	Earnings per Passenger-Train Mile.				
	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.
Boston & Albany, . .	$1.783	$1.754	$1.739	$1.725	$1.657
Boston & Lowell, . .	.888	.978	–	–	–
Boston & Maine, . . .	1.402	1.407	1.250	1.295	1.367
Boston & Providence, . .	1.527	1.542	–	–	–
Fitchburg, ...	.924	.978	.971	.970	1.053
New York & New England,	1.161	1.191	1.141	1.120	1.130
Old Colony, ...	1.398	1.402	1.460	1.516	1.409
Connecticut River, . .	1.239	1.305	1.332	1.308	1.217
New York, New Haven & Hartford, ...	1.815	1.756	1.614	1.633	1.674
Providence & Worcester, .	1.591	1.566	1.523	1.469	1.416

	Earnings per Freight-Train Mile.				
	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.
Boston & Albany, . .	$1.465	$1.530	$1.696	$1.762	$1.966
Boston & Lowell, . .	1.469	1.536	–	–	–
Boston & Maine, . . .	1.944	1.941	1.884	1.769	1.822
Boston & Providence, . .	2.450	2.674	–	–	–
Fitchburg, ...	1.792	1.915	1.759	1.704	1.670
New York & New England,	2.216	2.154	2.093	2.095	1.961
Old Colony, ...	2.562	2.562	2.496	2.742	2.053
Connecticut River, . .	3.167	3.286	3.438	3.412	3.953
New York, New Haven & Hartford, ...	2.014	2.109	2.213	1.990	1.951
Providence & Worcester, .	2.734	3.122	3.587	3.243	3.540

Cost of Running Trains.

The average cost of running trains one mile during this year on all roads reported has been $0.872. The cost (not including taxes) of running each train mile for the past eight years was as follows: —

Cost per Total Train Mile.

1882–83, . . .	$0.949	1886–87, . . .	$0.883
1883–84, . . .	.895	1887–88, . . .	.906
1884–85, . . .	.813	1888–89, . . .	.874
1885–86, . . .	.845	1889–90, . . .	.872

The following table shows the cost, not including taxes, for five years, per total train mile, to each of the leading corporations of the State: —

	Cost per Total Train Mile.				
	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.
Boston & Albany, . . .	$0.933	$0.967	$0.987	$0.912	$0.955
Boston & Lowell, . .	.680	.706	–	–	–
Boston & Maine, ...	.805	.807	.810	.789	.812
Boston & Providence, . .	1.216	1.563	–	–	–
Fitchburg, ...	.753	.805	.800	.788	.771
New York & New England,	.834	.823	.831	.823	.798
Old Colony, ...	.909	.935	.949	1.016	.951
Connecticut River, . .	.967	1.020	1.077	1.058	1.094
New York, New Haven & Hartford, ...	.937	1.016	1.029	1.004	1.007
Providence & Worcester, .	.994	.930	1.055	.879	.868

The cost of certain specified items of train service per total train mile for the last six years is divided as follows: —

	1885.	1886.	1887.	1888.	1889.	1890.
Repairs of road-bed, .	$0.118	$0.122	$0.125	$0.131	$0.122	$0.112
of bridges, . .	.023	.025	.022	.030	.024	.020
of rails, . .	.015	.015	.013	.018	.021	.014
of locomotives, .	.054	.056	.054	.051	.046	.050
of passenger cars,	.035	.039	.041	.048	.038	.036
of freight cars, .	.035	.047	.048	.047	.037	.045
Wages, ...	.268	.272	.284	.286	.289	.292
Oil and waste, . . .	.008	.007	.007	.007	–	–
Fuel, ...	.094	.091	.095	.099	.101	.098
Totals, . . .	$0.650	$0.674	$0.689	$0.717	$0.678	$0.667

Fares and Freights per Mile.

The four following tables show the average fares on all roads, the average fares and freights for eight years on the leading roads, and the change in average rate of freight on six roads since 1865 : —

Average Fare on all Roads in the State.

1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.
$0.0201	$0.0192	$0.0187	$0.0188	$0.0185	$0.0190	$0.0187	$0.0183

Average Fares for Six Years.

	Fares.					
	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.
	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.
Boston & Albany, . .	1.84	1.85	1.88	1.87	1.87	1.86
Boston & Maine, . .	1.74	1.80	1.83	1.94	1.86	1.81
Boston & Providence, .	1.84	1.87	1.85	–	–	–
Old Colony, . . .	1.70	1.70	1.69	1.85	1.83	1.82
Boston & Lowell, . .	2.04	2.06	2.13	–	–	–
Fitchburg, . . .	1.83	1.75	1.89	1.97	1.96	1.91
New York & New England,	1.93	2.02	2.07	2.02	2.00	1.96
Connecticut River, . .	2.34	2.42	2.42	2.42	2.40	2.39
New York, New Haven & Hartford, . . .	1.94	1.92	1.77	1.68	1.72	1.66
Providence & Worcester,	2.08	2.10	2.10	2.12	2.28	2.27

Average Freights for Six Years.

	Freights.					
	1885.	1886.	1887.	1888.	1889.	1890.
	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.
Boston & Albany, . .	0.94	1.10	1.10	1.08	1.03	1.11
Boston & Maine, . .	2.13	2.27	2.22	1.96	1.88	1.71
Boston & Providence, .	2.83	2.84	2.93	–	–	–
Old Colony, . . .	2.90	2.93	2.90	2.90	2.91	2.66
Boston & Lowell, . .	1.77	1.67	1.71	–	–	–
Fitchburg, . . .	1.06	1.07	1.13	1.09	1.02	0.99
New York & New England,	1.71	1.67	1.63	1.56	1.36	1.22
Connecticut River,	2.96	2.81	2.92	2.65	2.74	2.75
New York, New Haven & Hartford, . . .	1.96	2.00	1.95	1.78	1.83	1.81
Providence & Worcester,	2.45	2.49	2.55	2.52	2.54	2.50

Average Rates of Freight, 1865 and 1890.

	Rate 1865. Cents.	Rate 1890. Cents.	Per cent. of 1890 to 1865.
Boston & Albany, ...	3.90	1.11	28
Boston & Maine, ...	4.58	1.71	37
Connecticut River, ...	6.20	2.75	44
Fitchburg, ...	4.10	0.99	24
Old Colony, ...	3.20	2.66	·83

STEEL RAILS.

During the year, 322.156 miles of steel rail were laid, as against 80.091 laid last year, making the whole amount now laid 4,592.550 miles, being more than the total of main line, including double track and branches, showing that part of the sidings are now in steel. The amount of steel rail laid each year for six years is shown in the following table: —

	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.
Steel rail (miles), .	215	237	329	287	80	322

ROLLING STOCK.

The increase in the number of locomotives during the year has been 22; the increase of passenger cars, 25; mail and baggage cars have increased 3; freight cars have increased 86.

The following table shows the amount of rolling stock returned for the last seven years: —

	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.	1889-90.
Locomotives, .	1,391	1,416	1,445	1,550	1,635	1,621	1,643
Passenger cars, .	1,948	1,993	2,058	2,191	2,443	2,576	2,601
Mail and baggage cars, . . .	525	509	518	564	581	460	463
Freight cars, .	29,701	29,957	31,319	34,200	34,808	34,890	34,976

EMPLOYEES.

The average number of persons employed by the railroad corporations making returns to this Board was 40,350, being an increase of 1,441 from the year 1889. The following table shows the number employed for each of the past eight years : —

1882–83,	29,844	1886–87,	34,200
1883–84,	30,590	1887–88,	38,928
1884–85,	30,069	1888–89,	38,909
1885–86,	31,188	1889–90,	40,350

The whole number employed by all the steam railroads and street railways making returns to this Board is 46,596.

STREET RAILWAYS.

Returns were received from 48 street railway companies. During the year five companies have been incorporated, — four under chapter 113 of the Public Statutes, and one, the Milford & Hopedale, by special act of the Legislature. The four companies incorporated under the provisions of the Public Statutes were the Essex Electric, the Manet, the Nantucket Electric and the Nantucket Beach companies.

The Waltham & Newton having been purchased by another corporation, and the Martha's Vineyard and the Norfolk companies having been abandoned, no returns were received, and the names of these companies have been dropped from our list.

The aggregate capital stock of all the street railway companies is $14,879,130, being an increase of $2,588,390; the gross debt has also increased $2,283,619.80, and now amounts to $10,732,859.44. The aggregate of stock and gross debt is now $25,611,989.44.

One corporation paid a dividend of 8 per cent. on preferred, and 10 per cent. on common stock; three paid dividends of 10 per cent.; three of 8; one of 7½; eleven of 6; one of 4½; two of 4; one of 3; one of 2; one of 1. The remaining companies declared and paid no dividends.

The average rate of dividend on the total amount of capital stock was 6.47 per cent.; and the net earnings amount to 7.08 per cent. on the aggregate of capital stock and gross debt.

The whole length of track, including branches, sidings and double track, is 663.855 miles, being an increase of 42.971 miles. The average cost is $17,352.78 per mile for permanent way, $10,664.66 for equipment, and $11,413.20 for land and buildings, making a total cost of $39,430.64 for each mile of road owned. The number of round trips was 3,764,816, an increase of 318,047 over the previous year; with a mileage of 26,516,937, an increase of 2,257,446. Passengers were carried to the number of 164,884,443, being an increase of 16,684,443 over the number carried during the preceding year. The number of passengers carried on the street railways exceeded the number on the steam roads by 66,040,731.

The gross income was $8,388,015.48, an increase of $833,506.42. There was an increase of net income of $441,252.14, with an increase of dividends paid amounting to $124,505.

The average amount received for the conveyance of each passenger was 5.09 cents, and the average cost of carrying each person amounted to 3.99 cents; the net profits to the companies being 1.10 cents, against 0.93 cent as compared with last year. The average cost of a round trip was $1.75, with a profit of 48 cents, being an increase of 8 cents over last year.

The whole number of horses was 11,241, being a decrease of 576; the number of cars was 3,247, showing an increase of 305, and the number of other vehicles was 567. The number of persons employed on street railways was 6,246, being a decrease of 56 over last year. The number of accidents reported was 372, of which 20 were fatal. The number injured the previous year was 357, 8 of whom were killed.

For the year ending September 30, the Board has authorized an increase of capital stock of the following companies: the Attleborough, North Attleborough & Wrentham, an increase of $43,000; the Springfield, an increase of $50,000; the Lowell & Dracut, an increase of $100,000; the Nantucket Electric, an increase of $20,000; the Lynn Belt Line, an increase of $60,000; the Boston & Revere Electric, an increase of $20,000. In accordance with such authority, the Attleborough, North Attleborough & Wrentham has issued $43,000; the Springfield has issued $50,000; the Lowell & Dracut has issued $100,000; the Lynn Belt Line has issued $47,150; and the Boston & Revere Electric has issued $20,000 of capital stock.

The Board has also approved of the issue of mortgage bonds as follows: the Attleborough, North Attleborough & Wrentham, $50,000; the East Side, $30,000; the Plymouth & Kingston, $35,000; the Naumkeag, $1,000,000, which took the place of the $700,000 authorized last year but not issued; the Nantucket Electric, $60,000; the Lynn Belt Line, $100,000; the Boston & Revere Electric, $50,000.

By the annual returns to the Board, it appears that under such approval the Attleborough, North Attleborough & Wrentham report an issue of $50,000; the Plymouth & Kingston $35,000; the Lynn Belt Line $70,000; and the Boston & Revere Electric $25,000 of mortgage bonds.

According to returns from the various companies, there were in operation, on the 30th of September, 157.771 miles of electric road using the "overhead" system, and 3.090 miles using the "storage-battery" system. There were under construction 28.450 miles of the "overhead" system and 6 miles to be operated by the "storage-battery" system.

GEORGE G. CROCKER,
EDWARD W. KINSLEY,
EVERETT A. STEVENS,
Commissioners.

JANUARY, 1891.

APPENDIX.

[A.]

FENDERS FOR ELECTRIC STREET CARS.

Report of Professor Swain.

Boston, Sept. 24, 1890.

To the Massachusetts Board of Railroad Commissioners, Hon. George G. Crocker, *Chairman*.

Gentlemen: — I beg leave to submit to you the following report concerning fenders for electric street cars, together with the results of the experiments upon them made in your presence at various times during the past six months, and the results of correspondence and investigation as to their use in other cities.

Chapter 364 of the Acts of the present year, approved June 3, 1890, reads as follows: —

An Act relating to fenders and guards for street railway cars.

Be it enacted, etc , as follows:

Section 1. Street railway companies operating cars propelled by any motive power other than horses shall equip their cars with such fenders and guards as may be required by the board of railroad commissioners; and said board shall have power from time to time to modify or increase such requirements.

Sect. 2. A street railway company which, for more than six months after being notified as to the kind or kinds of fenders and guards required by the board, operates a car not equipped with such fenders and guards, and propelled by any motive power other than horses, at a speed greater than at the rate of seven miles an hour, shall for each offence forfeit a sum not exceeding fifty dollars.

The experiments under your direction were begun some time previous to the passage of this act, as it appeared, from several accidents which occurred in the operation of electric cars in this city, that the problem demanded immediate attention.

The electric cars of the West End Street Railway have thus far generally been equipped with fenders, consisting of a strip of plank six inches wide and four inches from the rail, extending square across the track, about two feet in front of the forward axle. This strip of plank is attached to the truck itself, and not to the car body. In a few cases, wooden V-shaped fenders are placed in front of the square fenders.

The square fender did not at first sight appear to be suitable or effective, and the experiments which are to be described were therefore carried out under your direction, with cars furnished by the West End Street Railway Company, for the purpose of determining by actual experiment upon the most effective form.

As the inquiry has progressed, it has been found that the fender question is in a very unsatisfactory state, and, while it at first sight appears to be a simple problem to provide an effective life-guard, it has been found that, as a matter of fact, there is probably scarcely a fender in use in the country which would in all cases satisfactorily accomplish its purpose, while to design one that shall be perfectly satisfactory is no easy matter.

Before proceeding to describe the experiments which have been made, the questions involved in the general problem should be considered.

In order to guard satisfactorily and effectively against serious injury or loss of life in case a person is struck by an electric car, two conditions should be fulfilled, aside from the provision of suitable and effective brakes: first, there should be some fender or other appliance which should render it impossible for even the front portion of the car to pass over the body; and, second, something should be provided which a person so struck could easily seize and hold on to, thus further preventing the car from passing over him. In other words, the ideal arrangement would be one which should carry or push along any object which it struck, keeping it in front of the car. The danger of allowing even the front portion of the car to pass over a person's body arises, in the first place, from the fact that there is in most cases only a clear space of from twelve to fifteen inches between the track and the timbers or apparatus under the platform; and, in the second place, from the fact that at certain seasons the scrapers and sand spouts used on some cars project below the floor to within five inches of the rails. If the front platform of a car passes over a person lying on the track, there is therefore danger that he may be injured either by these scrapers or sand spouts, or by being hit or caught in some way. The thickness of a man's body, if he is lying flat on the track, is ordinarily considerably less than fifteen inches, but if he were lying upon one side, this distance might not be sufficient to clear him; and it is evident that, if the platform were to pass over a person, the chances of injury would be greater than if there were some fender which should carry or push him ahead of the car.

The most important function of a fender, however, is to prevent the *wheels* of the car from passing over anything which may be lying on the track. If a man is struck and knocked down by an electric car, however desirable it may be to prevent his getting under the car at all, the most important point is clearly to prevent his getting under the wheels. He may be killed by the blow, or by being pushed along a rough pavement; but he will almost certainly be killed if he gets under the wheels.

To design a fender for a street car is peculiarly difficult in the case of cars which, like most of those at present running on the West End Street Railway, have but four wheels, and in which the car body projects some eight feet beyond the axles. This car body, being supported upon the truck by means of springs, is subject to considerable vibrations. In one of the experiments recently made, four men on each end of the car tilted the car body to such an extent that the extreme ends of the platforms moved over a vertical distance of one foot. That is to say, a fender at the end of the platform, arranged to be six inches in the clear above the rail, was made to touch the rail when the car was tilted. A motion of the car body almost to this extent is not at all uncommon in ordinary running, as will be evident to anyone who observes the passage of street cars along our streets, especially where the track is uneven, or the car unsymmetrically loaded. It is this fact, largely, which renders difficult the design of a fender which shall fulfil all the desired conditions.

In order to accomplish its purpose most satisfactorily, any fender must be placed as near to the rails as is practicable; and, in order that it may not be itself a source of danger, it must not be liable to injury by striking against projecting stones or any other ordinary inequalities in the track. On many of our streets the pavements are quite uneven, and stones may be found projecting nearly two inches above their neighbors. Sometimes the pavement is crowned between the tracks, or rises sharply outside of them, so that the level of the rails is considerably lower than that of the pavement between them, or just outside of them.

The presence of sudden changes of grade, the crowning of streets over bridges, and the projecting flange of the rail at curves, are other elements which limit the least allowable height of the fender above the rails. Other things equal, the smoother the pavement, the closer the fender may be brought to the rails; but it would not be generally feasible to bring the solid part of a fender lower than within two inches above the rails, and, if it is subject to oscillation, it must of course be placed correspondingly higher than this.

For the purpose of gaining clear ideas as to the ways in which fenders may be arranged, and the essential differences which may exist between the various kinds, they may be classified as follows: —

A fender may be *fixed* in position, that is to say, firmly attached to the car; or it may be *movable* in some way. A fixed fender may be attached either to the car truck or to the car body. We therefore have the following three possible kinds of fenders: first, fixed fenders attached to the car truck; second, fixed fenders attached to the car body; third, movable fenders, that is to say, fenders which swing or tip, or can be raised and lowered, or otherwise manipulated.

Aside from the conditions which a fender must fulfil as a means of preventing injury and loss of life, it must, considered as a mechanical appliance, possess two other qualities; namely, simplicity and certainty of action. It must further be so arranged that it cannot be itself a source of accident, and it is of course further desirable that it shall not be expensive.

Fixed fenders attached to the car truck must be placed either within a short distance of the wheels, or, if they are to be carried forward to the front of the platform (still attached to the truck), they must be designed so as to possess considerable stiffness. When it is remembered that, as already stated, the front of the platform of a car such as we are considering is about eight feet from the front of the truck, it will be seen that the difficulties in the way of designing satisfactorily a fixed fender attached to the truck, and projecting to the front edge of the platform, are considerable, if not insurmountable. As has been explained, such a fender must be at all points two or two and one-half inches in the clear above the level of the rails. Further, in order to give it sufficient rigidity, so that it may not vibrate too much, it must have a certain depth. Probably ten inches would be scarcely sufficient; yet this would bring the top of the fender close to some parts of the under side of the platform, and therefore the tilting of the car would result in the platform striking the fender, causing damage and perhaps accident. There are other difficulties in the way of satisfactorily attaching such a fender to the truck alone. No fender of this kind, therefore, has been designed or tried in your experiments.

If the fender attached to the truck projects in front of the truck only a short distance, then it may easily be made sufficiently rigid; it will be independent of the car body, and it may be carried down to the minimum distance from the track. Fenders of this kind, of various shapes, have been tried in the experiments to be described. They are open to the objection that they do not prevent the *platform* of the car from passing over an object lying on the track, but they may be arranged under favorable circumstances so as to prevent that object from getting under the *wheels*.

To design a fender to be attached to the car body is still more difficult. Such a fender must of course partake of the tilting motion of the car. If placed at the end of the platform, in order to allow for a tilting motion of six inches either way, it must, therefore, when the car is at rest, be at least six inches *further* from the track than a fixed fender attached to the truck; that is to say, it must be at least eight or nine inches from the track. This distance is so great that such a fender would be of no practical value, except as affording something for a person to hold on to, or unless it is arranged so as to catch and carry a person who might be run into while *standing* on the track. The experiments show that it would generally ride over any obstruction such as a human body *lying* on the track. If the fixed fender attached to the car body is placed under the platform, it must still be farther from the track than a fixed fender attached to the truck, depending upon its distance from the axle. It would therefore stand at a disadvantage, compared with the latter, not only on account of this greater distance, but on account of the tilting motion of the car, and the fact that an obstruction might be caught under such a fender and crushed by it, if the car were tilting.

Of the third class of fenders, namely, movable fenders, many kinds may be devised. One form which at once suggests itself is that of a fender pivoted to the forward part of the track, extending forward to the front of the platform, and normally raised so that the tilting of the car will not cause it to strike the ground, but arranged so that the forward end may be lowered by the driver when an object such as a human body is liable to be run over. When lowered, such a fender might roll or slide upon the rails. It would not be practicable to have it roll upon a single roller in the centre of the track, because such a roller would be apt to catch on any obstruction, or to plough into the ground where there is no pavement between the rails, as in places on the Beacon Street division. If the fender, when lowered, is to slide or roll upon the rails, it must be supported upon a strip of iron or upon a roller so wide that it shall always be supported on the rails, even when going around a sharp curve. The lowest part of that portion of the fender extending across the track can be no nearer to the rails than the lowest part of a fender of the first class, that is, a fixed fender attached to the truck, since both must clear the same obstructions. If rolling or sliding upon the rails, a fender such as described must have rigidity sufficient to enable it to push ahead of itself any obstruction which it is liable to meet. It must be so attached to the platform, by means of a spring or catch of some kind, that the driver may drop it to the ground at will, or it must automatically drop when an obstruction is encountered, being thus independent of the driver.

Various other kinds of movable fenders may be imagined, and some of them will be referred to hereafter.

Experiments, under your direction, were made with the following kinds of fenders: —

1. A fixed fender, attached to the car body, consisting of a piece

of plank extending square across the track, and attached at each end *at the front of the platform*, in such a way that its distance from the ground could be varied, resembling that shown in Fig. 7, except that the latter is fixed.

2. A V-shaped fender, similarly attached *to the front of the platform.*

3. A fixed fender, attached *to the truck*, consisting of a piece of wood extending square across the track, about two feet in front of the forward axle, shown in Fig. 5.

4. A fender like No. 3, but with a strip of plank fixed horizontally to its lower edge, forming a sort of shelf.

5. A fixed wooden fender, attached to the truck, of a V-shaped form, coming to a point in the centre of the track, similar to that shown in Fig. 1.

6. A fixed fender, attached to the truck, similar to the last, but with a straight portion twelve or eighteen inches long in the centre of the track, cutting off the point of the V.

7. A movable fender, attached to the car body. This form was suggested by the chairman of the Board, and consisted of two strips of iron pivoted to the under side of the car body a short distance in front of the truck, and about over the rails, and curving downwards and forwards, their front ends being turned backward, forming wide strips which slid on the rails. Between these two iron strips, one over each rail, pieces of wood extending square across the track were fastened, the whole forming a sort of scoop, pivoted at its rear end and sliding on the rails at its front end, which could be raised from the track, and which would normally be so raised, and only dropped on the track when some obstruction presented itself.

8. A movable fender, attached to the car body, suggested by the general manager of the West End road. This consisted of an inverted right-angle trough, hung under the platform, and extending across the track. The dimensions were such that the fender would normally be above any of the ordinary obstructions on the track; but, when any large obstruction, such as a man's body, was encountered, it would be swung until one side of the trough was vertical, and was therefore brought closer to the rails than when swinging in its normal position. The fender tried was attached to the car *truck* only a short distance in front of the axle, but it might be attached to the under side of the platform considerably nearer to the front end, in which case, however, it would have to be placed somewhat higher above the rails than in the case of the fender experimented with.

9. A movable fender, attached to the car truck. This fender consisted of a piece of plank eight inches wide and one and one-quarter inches thick, hinged at its upper edge to the ordinary square wooden

fender attached to the front of the truck. This fixed piece of wood was three and one-half inches in the clear above the rails. The movable portion hinged to it was so arranged as to be only one inch in the clear above the rails when in a vertical position; but, as this distance would be too small to avoid striking in ordinary running, this movable portion was designed to be swung upward and forward, and held at a height of three and one-half inches in the clear above the rails by means of suitable apparatus. Two feet in front of the hinge there was suspended to the car body a strip of plank nine inches wide and four inches in the clear above the rails, extending across the track. This was free to swing, and, when it came in contact with any obstruction on the track, it would be swung backward and would release and let fall the hinged fender behind it, with which it was connected by a suitable tripping device. The hinged fender would therefore fall to a clear height of one inch above the rails almost as soon as anything struck the forward swinging tripper, while in ordinary running the hinged fender would be three and one-half inches above the rails.

10. A movable fender, very similar in manner of operation to No. 9, but different in shape. This fender was made of iron, and consisted of four bracket-like supports, each made of a strip of iron bent to form a right angle, the lower portion projecting forward and the upper end of the vertical arm being hinged as in fender No. 8. Upon these four supports a curved piece of galvanized iron was fastened, extending square across the track, curving downward and forward, and forming a sort of scoop. The length of the horizontal arm in this fender was eleven inches, that of the vertical arm eight inches. The fixed wooden strip to which this fender was fastened was three and one-quarter inches in the clear above the rails. The movable fender, when down, that is to say, with one arm horizontal and the other vertical, was one and one-half inches in the clear above the rails. When up, that is to say, raised in the position intended for ordinary running, it was four inches in the clear above the rails. The suspended plank by the swinging of which this fender was let down was five inches in the clear above the rails, and was three feet three inches in front of the hinge by which the fender was suspended.

These two fenders, Nos. 9 and 10, form a class by themselves, which may be described as automatic movable fenders attached to the truck, normally raised, but designed to be let fall automatically by contact of the tripper with any obstruction on the track.

11. A modification of fender No. 6, consisting of a wooden V with the point cut off by a straight piece eighteen inches long, braced with two rods running to a piece of angle iron connecting the two sides of the truck, so as to steady the point. This fender

had a light angle iron attached to it at its lower edge, forming a very narrow shelf. The fender resembled, therefore, No. 6, with the addition of the angle iron.

12. A movable fender, somewhat similar to No. 9, consisting of a piece of plank square across the track, but hinged at its upper edge so that it could be raised by the driver when the car was carried over a turn-table, the normal distance of the fender from the rails being so small that this was necessary. Further descriptive remarks regarding these fenders will be given in the course of the following pages.

The experiments were made principally with the aid of a large bag, about fifteen inches in diameter, stuffed with blankets so as to resemble to some extent the body of a man. In the later experiments a small roll of carpeting, six inches in diameter, was also used. These were placed in the middle of the track, or on one side, in various positions, and the car was run against them, the effects being noted.

The experiments were as follows: —

MARCH 31, 1890. — These experiments were merely preliminary, and for the purpose of gaining some information regarding the height above the rail at which a fender would be inoperative. The fenders tried were Nos. 1 and 2. The bag used was the large one.

Experiment 1. Square fender, attached to front of platform (No. 1), six inches above rails, bag nearly over one rail. The bag was pushed a few feet, and *then worked under the fender.*

Experiment 2. Same fender, three inches above the rail, bag nearly over one rail. This fender *pushed the bag before it.*

Experiment 3. V-shaped fender, attached to front of platform (No. 2), six inches above the ground, bag nearly over one rail. The bag *worked under this fender.*

Experiment 4. Square fender, attached to front of platform, six inches above ground, bag over one rail. This fender again *passed over the bag.*

Experiment 5. Pointed fender, as in Experiment 3, bag on one rail. This fender *pushed the bag off the track.*

Experiment 6. Square fender, attached to front of platform, six inches above ground, bag in centre of track. Fender *pushed the bag ahead.*

Experiment 7. Pointed fender, attached to front of platform, six inches above ground, bag in centre of track. Point of fender caught on bag, and *worked over it*, bag being rolled under.

These experiments were made with an ordinary car, pushed by men, in the Bartlett Street yard. They were far from complete, but indicated two things: first, that any fender six inches above the rails would be of little or no value, if the bag fairly represented a man's body lying on the track; and, second, that a V-shaped fender, six inches from the rail, would be no more effective at low speeds than a square fender; and, in fact, if the action of such a fender on a man's body were the same as its action on the bag stuffed with blankets, the rolling action developed by the pointed fender working over the obstruction would be such that a fender of this kind would be worse than a square fender straight across the track. It further appeared probable that, if a fender were three inches above the track, the large bag would not work under it. These experiments showed the necessity for the further and more careful ones which followed.

April 3, 1890. — These experiments were made with an electric car, on Beacon Street, between West Chester Park and the bridge over the park water-way. The speed of the car was much greater than in the previous experiments. It was not measured, but was simply estimated. The large bag was used, as before. The fenders used were Nos. 1, 3, 5, 7. The experiments were as follows: —

Experiment 1. Square fender, *attached to front of platform* (No. 1), *four* inches above rail. Speed, about six miles per hour. Bag was pushed along.

Experiment 2. V-shaped fender, attached to truck (No. 5), four inches from rails. Speed, about six miles per hour. Bag was pushed some distance, and then *worked under fender.*

Experiment 3. Fender as in first experiment. Speed, about twelve miles per hour. Bag was pushed along, but worked somewhat under fender.

Experiment 4. V-shaped fender, as in second experiment. Speed, about twelve miles per hour. Bag was pushed along, and did not work under the fender.

Experiment 5. V-shaped fender, as in second experiment. Bag on one side of centre of track. Speed, about twelve miles an hour. Bag was partially rolled up under car, and finally pushed off on side of track. If it had been a man, he would have been killed.

Experiment 6. Movable scoop fender, as described (No. 7). Lowest point of portion extending across the track was two and one-half inches above the rail. Speed, about twelve miles an hour. The bag was pushed along.

Experiments 7, 8, 9, 10, 11, 12, 13, 14, 16 and *18* were essentially the same as Experiment 6. In Experiment 18, the speed was about twelve miles an hour, and the car stopped within sixty feet from the point where the brakes were applied.

In all the previous experiments excepting Nos. 13 and 14, the bag laid on the ground where the centre of the track was from one-half to one and one-half inches below the level of the rails. In experiments 13 and 14, the bag was placed on the bridge, where the track between the rails is very nearly at the same level as the top of the rails.

Experiment 15. Scoop fender, as before. Bag laid in centre of track on the bridge. Speed, about twelve miles an hour. Bag was pushed ahead till it got off the bridge, where there was a slight depression between the tracks, leaving about five inches between the ground and the fender. The scoop then went over the bag.

Experiment 17. Scoop fender. In this experiment the bag was pushed ahead and worked up on the scoop. This is the only case in which this occurred. This test was not on the bridge.

Experiments 19 and *20* (not on bridge). Square fender, attached to truck (No. 3), three and three-fourths inches above the track. Speed, about twelve miles an hour. The bag was pushed along, and worked a little under the fender. The car stopped within about fifty feet of the point where the brakes were applied.

Experiment 21 (not on bridge). V-shaped fender attached to truck (No. 5), four inches above rail. Bag was pushed ahead, working a very little under the fender. The speed was about ten miles per hour, and the car was stopped in about thirty-six feet.

Experiment 22 (not on bridge). Fender same as in last experiment. Speed, about ten miles an hour. Bag was pushed ahead, and gradually worked off to one side of track.

Experiment 23 (not on bridge). Fender same as in last experiment. Bag was pushed ahead, without working under.

Experiment 24. Same fender. Test made near the Boston & Albany Railroad bridge, where there is stone pavement between the tracks. Same result as in experiment 23.

Experiment 25. Scoop fender. Bag was pushed ahead, and worked a little under.

Experiment 26. This test was made at Coolidge's Corner, with square fender attached to truck (No. 3), four inches above rail. Bag was on pavement, lying flat across centre of track. Speed, about twenty miles an hour. Bag was pushed ahead till the end of the pavement was reached, when the car passed entirely over the bag. The centre of the track is here two and one-half inches below the top of the rail, so that the bottom of the fender was about six and one-half inches above the ground.

Experiment 27. Square fender, as in last experiment, bag lying across one rail on pavement. Speed, about twelve miles an hour. Bag was pushed ahead, working a little under the fender.

These experiments led to the following conclusions: —

First. Whether a fender is square or pointed, the question whether the bag would work under it appeared to depend principally upon the height of the fender above the ground. If the fender is as much as four inches above the level of the rails, there is danger of the bag being rolled under the fender, since the ground is often depressed somewhat below the level of the rails. If the fender is not more than four inches above the *ground between the rails*, there appeared to be very little danger of the bag working under the fender. Obviously, the fender must be placed at such a height above the rails as to clear any ordinary obstructions in the way of projecting stones, etc., which may anywhere exist upon the track; and, if there are places on the road where the ground between the rails is considerably lower than the rails, no fixed fender would prevent the bag from working under it at such places. A space of six inches between the fender and the ground would suffice for the bag to work under in almost every case.

Second. If the distance from the fender to the ground is such as to prevent the bag from working under, there appeared to be little difference between the square fender and the pointed fender. The pointed fender, however, has the advantage that at high speeds its tendency is to throw the bag to one side, away from the track; but at low speeds this action does not occur, and the bag is pushed ahead, as by the square fender. The pointed fender has, however, one serious disadvantage, which may be explained thus: when such a fender strikes an obstacle, such as a human body, it strikes it at one point. If, now, this point happens to be at a place where the body is thin or yielding, the point may ride up over the body, and thus the entire body may be gradually rolled or worked under the fender; or, at least, the *tendency* will be for the car to ride over the body, and a crushing action, due to the weight of the car, is developed, which may of itself easily prove fatal. On the other hand, when a square fender strikes a human body, it does not strike it generally at a point, but along a line. Unless, therefore, the entire portion of the body which is first struck is thin enough to pass under the fender, the body will be pushed along. There is therefore much greater danger that a pointed fender will ride over a body, than that a square fender at the same clear height above the ground will do so. And, if it does ride over the obstruction, the rolling motion thereby caused is much more objectionable than in the case of the square fender, although in either case a person over whom the fender passes would probably be killed.

Third. The movable scoop fender in these experiments did its work perfectly, in all cases pushing the bag ahead of it. This was due to the fact that it was but two and one-half inches above the rail at its lowest point, while the other fenders were about four inches above the rail. There is no reason why the other fenders could not be brought as close to the rails as the scoop fender, since both must be sufficiently high to clear the same obstructions in the track.

The scoop fender, however, did not generally succeed in picking up the bag and carrying it along; and, with the necessary minimum height two and one-half inches above the rail, the experiments indicate that no fender would succeed in doing this, except under peculiar circumstances. A bag or a human body would in most cases simply be pushed along.

This fender, moreover, showed itself liable to accident by striking the projecting angle of the rail at switches, and it was bent out of shape in these experiments; showing that, if it was to be used, it would have to be more rigid, and designed to ride more easily over such ordinary inequalities in the track and pavement.

The results of the experiments on the pointed fender suggested the trial of a similar fender, in which the point was cut off and a square or rounded piece substituted (No. 6), and it was thought that this would prove more satisfactory than any of the fixed fenders thus far tried. It was further noticed that the pointed fender was not very rigid, the ordinary motion of the car sufficing to make it vibrate considerably. It was therefore proposed to brace the point, so as to lessen the vibration, and allow of the fender being brought closer to the rails.

April 7, 1890. — The experiments made on this date took place also on Beacon Street, near West Chester Park. It was raining hard during these experiments. The fenders tried were the following, the numbers being those on page 80.

6. A V-shaped fender, attached to the truck, with a square front twelve inches long, cutting off the angle of the V, three inches from the level of the rails. This fender was braced vertically by an iron bar running from the front to a vertical post attached to the plank which extended square across the track in front of the wheels.

4. A square fender, attached to the truck, fitted with a horizontal board projecting forward at its lower edge, forming a shelf about three inches above the level of the rails.

7. A scoop fender, as used in the last experiments, except that the portion sliding on the rails was made with a wider strip of iron, curved so as to ride more easily over slight obstructions in the track.

The experiments resulted as follows, only the large bag being used: —

Experiment 1. Fender No. 6, bag in centre of track, lying flat. Speed, about eight miles an hour. Bag was pushed along.

Experiment 2. Same fender, bag lying flat on one side of track. Speed, about six miles an hour. Bag was pushed to one side of track.

Experiment 3. Square fender, with shelf (No. 4). Speed, about three miles an hour. Bag, lying on one rail, was pushed along.

Experiment 4. Scoop fender, bag in centre of track. Speed, about four miles an hour. Bag was pushed along.

Experiments 5 and 6. Same fender. Speed, about eight miles an hour. Bag was pushed along.

Experiment 7. Square fender, with shelf. Speed, about twelve miles an hour. Bag was pushed along.

Experiment 8. Fender No. 6, bag lying flat on one side of track. Bag was pushed along.

Experiment 9. Scoop fender. Speed, about eight miles an hour. Bag, lying flat on one side of track, was pushed along.

Experiment 10. Scoop fender. Speed, about twelve miles an hour. Bag, lying flat in centre of track, was rolled up on scoop.

Experiment 11. Scoop fender. Bag was pushed along.

In these experiments, the scoop fender was two and one-half inches in the clear above the rails, as in the previous experiments. These experiments showed that either the square or the V-shaped fender, about three inches above the rail, or three and one-half to four inches above the ground, would push the bag ahead of it. The shelf on fender No. 4 was shown to be of no advantage.

During these experiments, it was noticed that the V-shaped fender was still not very rigid, and that the ordinary motion of the car still sufficed to make it vibrate, though much less than at the time of the previous tests. It was therefore proposed to brace it vertically to the *truck*, if possible, and to make some further tests.

The scoop fender was again somewhat bent by running against obstructions, not being rigid enough to resist the pressure, and not being able to ride up easily over such obstacles. It was therefore suggested that this be still further improved.

May 7, 1890. — Experiments on this day were made, as before, on Beacon Street, near West Chester Park. The fenders tried were the following: —

6. Pointed fender, with twelve inches square cutting off the point.

6*a*. Pointed fender, with eighteen inches square cutting off the point.

These two fenders were braced to angle irons connecting the two sides of the truck, and it was thought that they would prove to be the most effective form of fender attached to the truck. They were both three inches in the clear above the rails, or not over four and one-half inches above the ground between the rails.

7. Scoop fender six inches wide where it slid on the rails, with the forward slat somewhat closer to the rail than in any of the previous experiments.

The experiments were as follows, only the large bag being used: —

Experiments 1, 3 and 9. Scoop fender, bag standing in centre of track. Speed, about twelve miles an hour. Bag was pushed along.

Experiment 2. Fender No. 6*a*. Bag standing in centre of track. Speed, about ten miles an hour. Bag was pushed along.

Experiment 4. No. 6*a*. Speed, about twelve miles an hour. Bag lying diagonally on one side of centre of track. Bag was pushed along.

Experiment 5. Same fender. Bag standing on one rail. Speed, about ten miles an hour. Bag was pushed along.

Experiments 6, 7 and 8. Same fender. Bag lying obliquely on one side of centre. Speed, about twelve miles an hour. Bag was pushed along.

Experiments 10 and 11. Fender No. 6*a*, bag lying in centre of track. Bag was pushed along.

Experiment 12. On pavement just east of Boston & Albany bridge. Scoop fender. Bag, in centre of track, was pushed along.

Experiments 13 and 14. Scoop fender, bag obliquely on one side of centre of track. Bag was pushed along.

Experiment 15. Fender No. 6. Bag on one side of centre of track. Bag was pushed along.

In none of these experiments did the bag work under the fender.

In running the scoop fender over a paved portion of the road near the Boston & Albany bridge, where the paving stones on either side of the rails are quite uneven, considerable obstruction was offered to the scoop, which, as stated, was six inches wide where it slid on the rail. In fact, the scoop was again bent somewhat out of shape.

MAY 24, 1890. — The fender tried on this day was the one called No. 8 (on page 80), devised by the general manager of the West End road. It was made of two pieces of plank, forming an inverted trough, suspended at the vertex from iron straps fastened to the truck. The fender thus extended across the car, not far in front of the forward axle. When suspended as in ordinary running, the lowest point of the fender was three and one-half inches above the rail; but, when swung so that one side of the trough was vertical, the lower edge of that side was but one and one-half inches above the rail.

Only two tests were made with this fender. In both of them, the large bag was pushed ahead. It was clear, however, that the fender had no advantage above the fixed fenders thus far tried, and, in fact, had several disadvantages; the principal one being that, as soon as it begins to turn, when it comes in contact with any obstacle, such as a human body, it will be sure to crush any portion of the body which is small enough to pass under it when swinging freely. In the experiments it did so crush into the bag, a part of which got under it. This fender, therefore, need not be further considered.

MONDAY, JUNE 23. — The experiments on this day were made with fenders Nos. 9 and 10, these fenders being the ones described on pages

80 and 81. Two bags were used, one being the same which had been used in previous experiments, the other being a small bag, or rather roll, of carpeting, six inches in diameter, tightly tied with strings.

The experiments were made on Beacon Street, just east of the park water-way, at the same place where most of the previous experiments had been made, as already described. One or two experiments, however, were made on Boylston Street, on the way out. The experiments were as follows : —

Experiment 1. On Boylston Street, just beyond Exeter, going west. Fender No. 9. Speed, about six miles an hour. Large bag. The bag was pushed along.

Experiment 2. Same place, going east. Fender No. 10, with large bag. The bag was pushed along, but did not work up onto the scoop.

Experiment 3. Same place, going east. Fender No. 10, with large bag. Result same as in experiment No. 2.

Experiment 4. Beacon Street, east of park water-way bridge, going east. Fender No. 10. Small bag used, and placed flat on one rail. Speed, about ten miles an hour. The bag did not operate the tripper, and consequently did not let down the fender. The car therefore passed completely over the bag, both wheels going over it. The scoop being raised, and therefore inclined forward and upward, it was very easy for the bag to pass under the same ; and, in fact, as soon as it had once got under the forward end, the tendency was for it to raise the scoop still further, thus making it still easier for it to pass under the lowest point.

Experiment 5. Same place, going west. Fender No. 9. Small bag, lying on one side of track. The result of this experiment was the same as in the case of No. 4, — the bag was run over.

Experiment 6. Same place, going east. Fender No. 10. Small bag, placed on end near the middle of the track. In this experiment the fender was *down*, and therefore the tripper was not required to operate. The bag was pushed a short distance, and was then run over at a point where the top of the rails was about one inch above the ground between the rails, and therefore the scoop was about two and a half inches above the ground. The speed was about twelve miles an hour.

Experiment 7. Going west. Fender No. 9. Small bag, standing on end, fender *down*. Speed, about twelve miles an hour. The bag was pushed along, and did not work under the fender.

Experiment 8. Going east. Fender No. 10. Large bag, placed on one rail. Speed, about eight miles an hour. The bag was pushed along.

Experiment 9. Going west. Fender No. 9. Large bag, lying on one rail. Speed, eight or ten miles an hour, and perhaps more. This experiment was very instructive. When the tripper struck the bag, it let down the fender. A fraction of a second was required, however, for the tripper to be released and the fender to fall, and in this fraction of a second the car had passed over the distance between the tripper and the fender itself. The fender, therefore, in falling, caught the bag beneath it, and wedged it between itself and the ground. The bag was pushed along, but was so firmly wedged under the fender, that, if it had been a child, it would certainly have been killed.

Experiment 10. Going east. Fender No. 10. Large bag, lying flat. Fender *down.* Speed, about six miles an hour. The bag was pushed ahead, but did not work up onto the scoop.

Experiment 11. This experiment was the same in all respects as No. 10.

Experiment 12. Going west. Fender No. 9. Large bag, lying flat. Fender *down.* Speed, about ten miles an hour. The bag was pushed ahead, and worked under the fender only a very little.

Experiment 13. Going east. Fender No. 10. Fender *down.* Small bag, lying flat. Speed, about twelve miles an hour. The car ran entirely over the bag in this experiment.

Experiment 14. Going west. Fender No. 9. Fender *down.* Small bag, lying flat. Speed, about ten miles an hour. The bag was pushed along without working under the fender. The level of the ground between the rails was here about one inch below the top of the rails. The bag was pushed ahead until it came to a place where there was a man-hole, and the ground rose to this man-hole. The bag became here somewhat wedged between the fender and the ground, and broke off the lower portion of the fender just before the car stopped.

These experiments were very instructive, and they seemed to add still further objections to movable fenders. These fenders were, as is evident, from the description of them on pages 80 and 81, movable and automatic. That is, they were normally to be at a greater height above the ground than when in operation, and they were let down by the obstacle coming in contact with the tripper in front of the fender. The objections to these fenders appear to be the following: —

First. There is danger, especially at high speeds, that the time occupied by the fender in falling — that is to say, the time elapsing between the instant when the tripper strikes the obstacle and the time when the fender reaches its lowest position — may be sufficient for the car to pass over a distance equal to or greater than the space between the tripper and the fender, so that, before the fender is down, the obstacle may be beneath it. In this case the fender will be worse than useless, for the car will either pass entirely over the obstacle, or the latter will be wedged between the fender and the ground in such a way as to be fatal in the case of a human being.

If the fender, after being released, is pushed down by a strong spring, instead of falling freely, this objection may be obviated to some extent, but not entirely.

Second. A small body may pass beneath the tripper without tripping it and letting the fender down, as was the case in experiment No. 4. In such a fender as this, therefore, the tripper should be placed as near to the ground as is practicable, in order to obviate this objection.

Third. The following objection may be made to the shape of fender No. 10; namely, that, if any portion of an obstacle which comes in contact with this fender succeeds in getting under the forward edge of the shelf, it exerts an upward leverage which turns the fender about its hinge, thus raising it and allowing the body to get still further under the fender. In the case of fender No. 9 there is not this objection, when the fender is fully down, because the fender is a vertical plank, hinged at its upper edge. A body getting somewhat under the lower edge of this fender can exert no leverage to rotate it about its hinge, unless the body be caught under the fender before the latter, in falling, has reached a vertical position. Should this occur, the fender in question will be open to the same objection.

These experiments show, therefore, that these two fenders offer no advantages above these already tried, but that, on the contrary, they possess some serious and even dangerous disadvantages.

Aug. 22, 1890. — These experiments were made near Oakland Garden. The form of fender used was the one described on page 81 as No. 11, and it was two inches and a half in the clear from the top of the rail.

The considerations which led to the trial of this fender were these: The previous experiments had shown that the efficiency of a fender depended almost entirely upon its distance in the clear above the rails; that the pointed fender was more liable to catch and pass over an obstruction than the square fender, but that the pointed fender might throw a body from the track, whereas the square fender could not; that the point of any V-shaped fender should be firmly braced, so that the fender should be rigid; further, that, in order to be most efficient, the lower portion of the fender should strike the obstacle, that is, the obstacle should be struck as low down as possible, because, if struck above the centre, there would be more tendency to roll it over than if struck below the centre. This form of fender was therefore suggested as likely to prove efficient, being a V-shaped fender with the point cut off, firmly braced, and with an angle iron shelf at the lower edge, which would be the first thing to strike the obstacle.

Experiments were made with the large and the small bag, and resulted as follows: —

Experiment 1. Large bag, lying flat over one rail. Speed, about fifteen miles an hour. The bag was pushed off the track.

Experiment 2. Results the same as in the first experiment.

Experiment 3. Large bag, standing in centre of track. The bag was pushed along, but not off the track.

Experiment 4. Small bag, lying on the track. Speed, about twelve miles an hour. The bag was pushed completely off the track.

Experiment 5. Small bag, lying flat in centre of track. It was pushed ahead, but not off the track.

Experiment 6. Small bag, standing in centre of track. The bag was pushed ahead of the square portion of the fender, the bag itself lying longitudinally. It then worked entirely under the fender. Speed, about ten miles an hour. In this experiment, since the bag was pushed endwise, it is probable that it was much more easy for the fender to work over it than if it had been pushed sideways, or than if it had been a human body.

Experiment 7. Small bag, standing in centre of track. Speed, about eight miles an hour. Bag was pushed ahead.

Experiment 8. Small bag, lying flat on one side of track. Speed, about nine miles an hour. The bag got into the groove of the rail, lying endwise, and was pushed ahead.

Experiment 9. Bag lying flat on one side of the centre of track. Speed, about twelve miles an hour. The bag was pushed off on one side of the track.

Experiment 10. Bag lying flat between rails. The fender passed completely over the bag, probably at a point where the ground was a little low.

Experiments 11 and *12.* Large bag, lying flat in centre of track. Speed, about twelve miles an hour. Bag was pushed ahead.

These experiments were, on the whole, very favorable. The fender pushed the bags to one side of the track more successfully than in any previous experiments. The fender being two and one-half inches in the clear above the rails, and the small bag about six inches in diameter, it is evident that, if the latter were laid between the rails in a depression of the ground of more than half an inch below the tops of the rails, the fender would strike it above its centre, and there would therefore be a tendency for it to be rolled and run over.

Against this form of fender it was objected by the manager of the West End railway that the cars could not be run over the present turn-tables unless the fender was higher or farther from the rails. He therefore stated as his belief, that, since a fender to be effective must be brought as close to the rails as possible, and since, if it were closer than three or three and one-half inches, the car could not be run over the turn-table, therefore some form of movable fender must be devised; that is, some kind of fender that could be raised when the car was to be run onto the turn-table. He therefore proposed some experiments with fender No. 11.

This objection, however, appears to have little force, for the reason that the turn-table can be easily altered to a slight degree, by raising the level of the tread of the rail by riveting on a strip of iron, and by lifting the rails on the approaches (or by using movable shoes to place over those rails), so that a car could be run onto the turn-table, even with a fender which came within half an inch of the level of the rails. Shoes for similar purposes, made wedge-shaped, have been frequently used in similar cases, and there would not be any mechanical difficulty in altering the turn-table so as to allow this fender to be passed over it.

Sept. 2, 1890. — These experiments were made on West Chester Park and Beacon Street, with the fender described on page 82 as No. 12, and proposed by the general manager of the road. The fender consisted of a straight board, two by eight inches, the bottom being two and one-quarter inches in the clear above the tops of the rails at one end of the car, and one and seven-eighths to two inches in the clear at the other end of the car. It was hinged at the upper end, and a cord passing over pulleys was attached to it, running up through the bottom of the car, so that it could be raised when required. The experiments were as follows: —

Experiment 1. Small bag, lying flat over one rail. Speed, about fifteen miles an hour. The bag was pushed ahead for some distance, and was then completely run over. The car was thrown from the track, the fender broken off, and the car only brought to a standstill when it had run half way across the other track. The fender in this experiment was the one which was two and one-quarter inches in the clear above the rails. The subsequent experiments were of course with the fender on the other end of the car.

Experiment 2. Small bag, lying over one rail. Speed, about eight miles an hour. The bag was pushed ahead.

Experiments 3, 4 and *5.* Same as No. 2, except that bag in Nos. 4 and 5 was in centre of track.

The ground between the rails on this portion of the road had been put in better condition since the previous experiments, and had been brought up to the level, or a little above the level, of the tops of the rails. There were few if any low spots in which the bag might get caught and run over.

Experiment 6. Small bag, in centre of track. Bag was pushed and rolled from the track.

This fender struck the guard rail in going round some of the curves on the road. It also scraped on the ground in one or two places, and it was evident that a fender could not be brought down any nearer to the rails, or even quite as near as this.

These are all the experiments made with fenders. In studying them, it must be remembered that the stuffed bag and the roll of carpeting which were used, did not act just as a man's body would. It is probable that the fender would more easily work over the bag than over a human body, for two reasons: first, because the bag was soft and yielding, and did not possess the firmness and resistance that a body does, so that the fender could much more easily gain a foothold, so to speak, and thus run over the bag, than it could over a human body; and, in the second place, because a human being would instinctively try to save himself from being run over, and would thus to some extent actively exert himself to prevent the fender passing over him. It follows that a form of fender which would prevent a bag from being run over by the wheels would even more effectively prevent a person of the same size from being run over. At the same time, an arm or a leg might more easily get under the fender than any part of the bag or roll.

Your attention is now called to the principal forms of life guard which are at present in use. Most of them are some form of the V-shaped fender, differing only in material, in mode of attachment to the truck, or in clear height above the rails. Some of them are very deficient in rigidity, while some possess other faults sufficient to render them practically of no value whatever.

Fig. 1 shows the ordinary V-shaped form, as used on the Thomson-Houston trucks. It is essentially this form which has been used on the West End Street Railway, but which is now seldom seen on that line. The clear height above the rail is in the neighborhood of four inches at the side, and about five in the centre of the track. This fender is deficient in rigidity, and appears to be of little value. It would probably easily ride over a body of ordinary size, and, if the point obtained any hold on a large body, it would probably cause frightful mutilation.

Fig. 2 shows the V-shaped fender used with the Stevenson trucks. This fender is sometimes brought as near as one and five-eighths inches above the top of the rail at the side, and about three inches at the toe. The fender is suspended by a stirrup hinged to the truck frame, so that the point of the fender may be pushed upward. The effect of this is that the fender would easily pass over any obstruction on which the point could obtain the least hold; and this feature is sufficient to render the fender of no value in most cases. Clearly, what is wanted is a fender which can *not* be pushed upward.

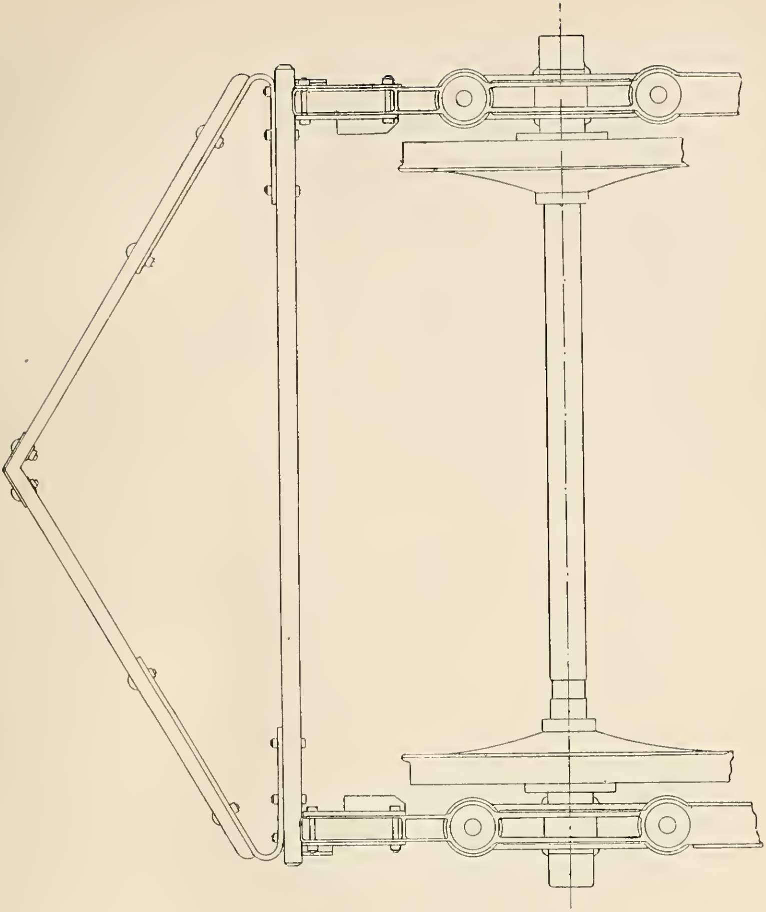


Fig. 1

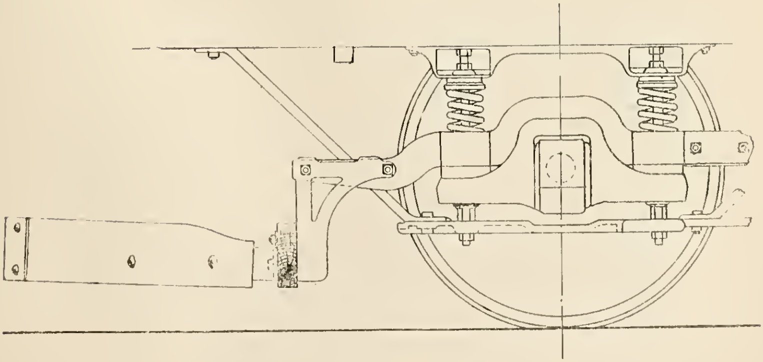


Fig. 2

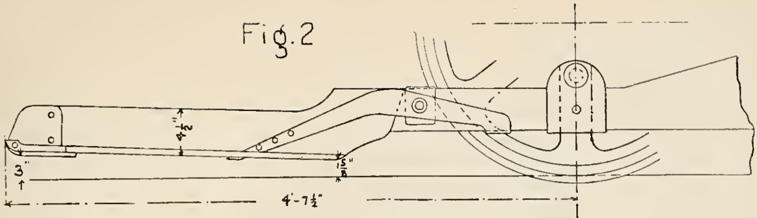


Fig. 3

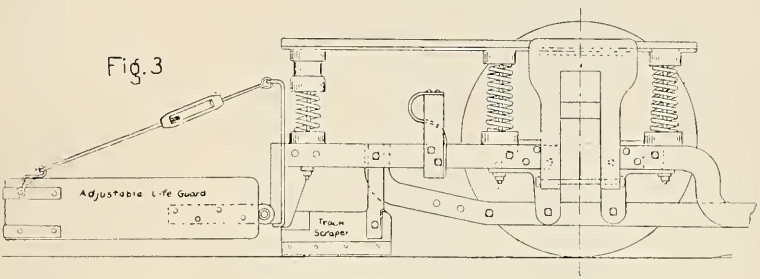


Fig 4

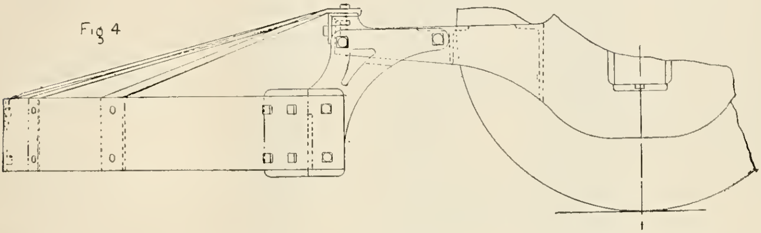


Fig. 5

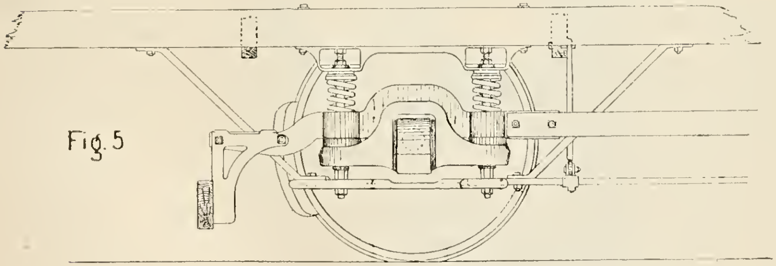
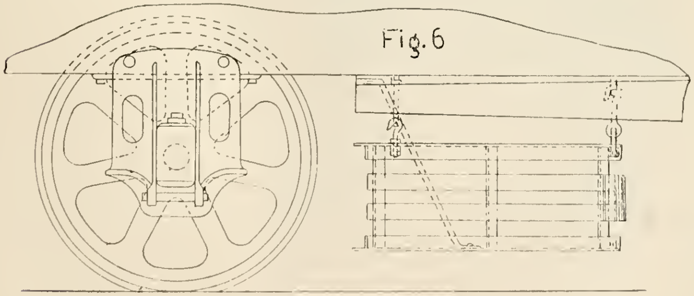


Fig. 6



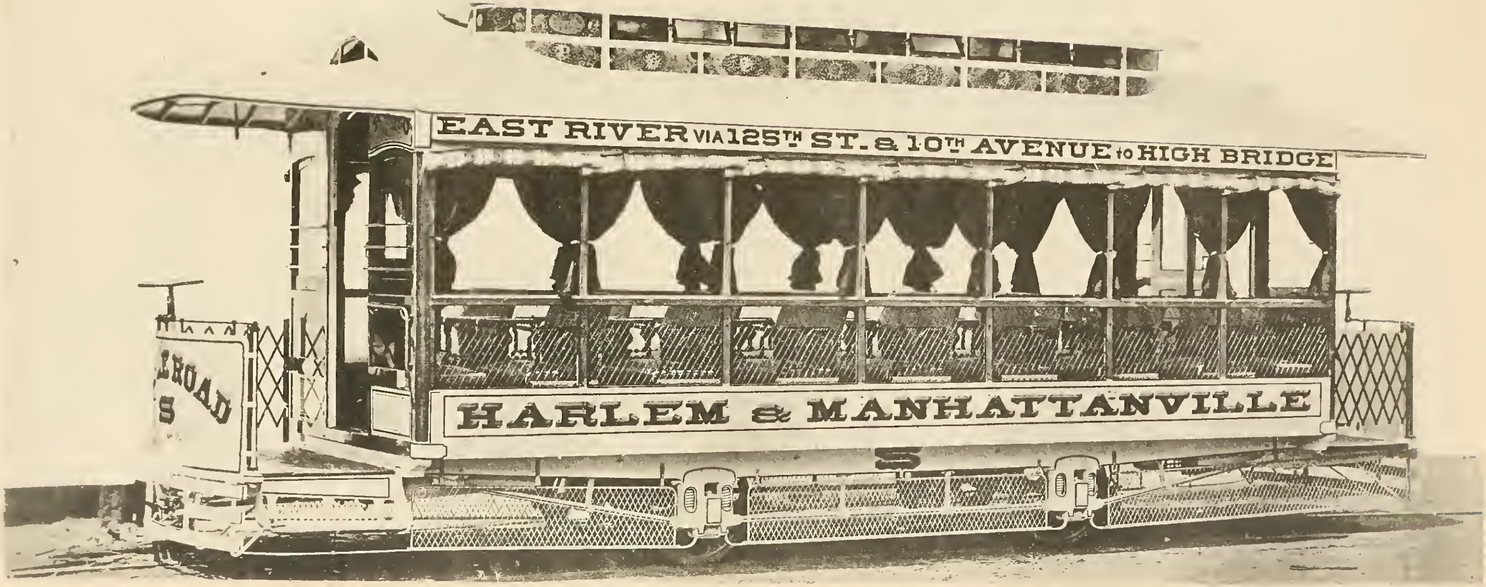

EAST RIVER VIA 125TH ST. & 10TH AVENUE to HIGH BRIDGE
HARLEM & MANHATTANVILLE
5
ROAD
S

FIGURE 7.

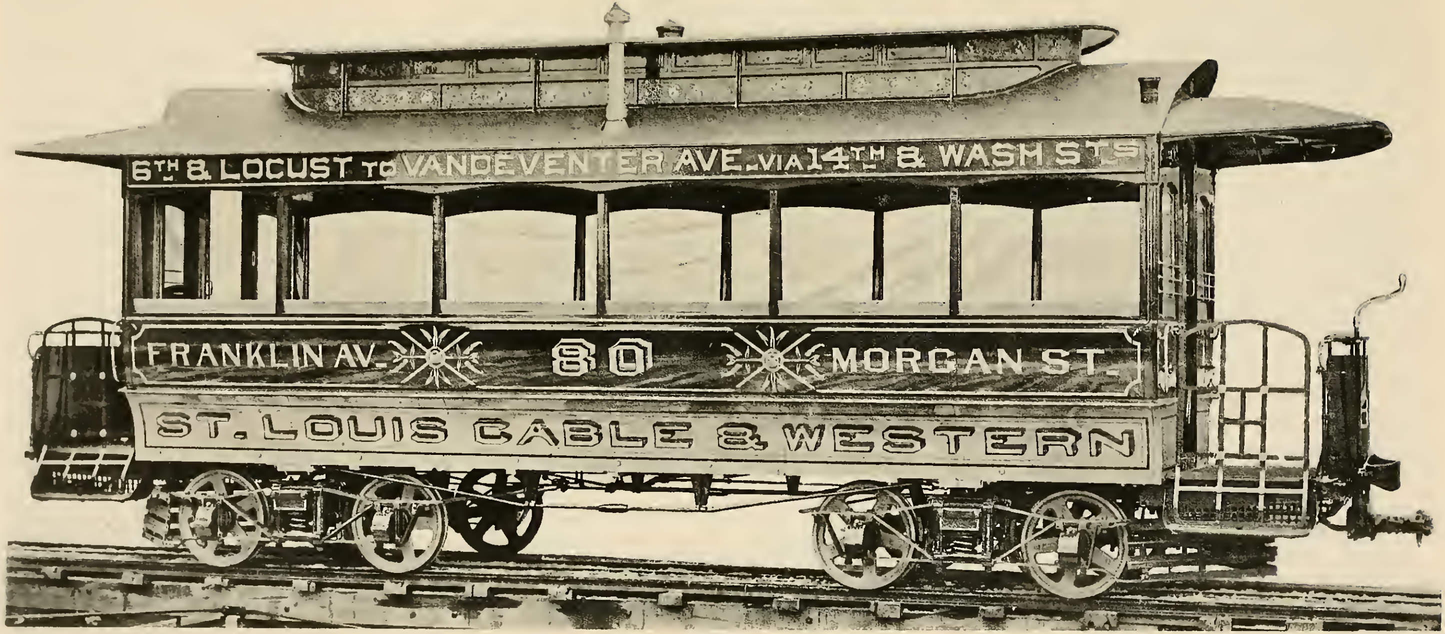

6TH & LOCUST TO VANDEVENTER AVE. VIA 14TH & WASH STS
FRANKLIN AV.
80
MORGAN ST.
ST. LOUIS CABLE & WESTERN

FIGURE 8.

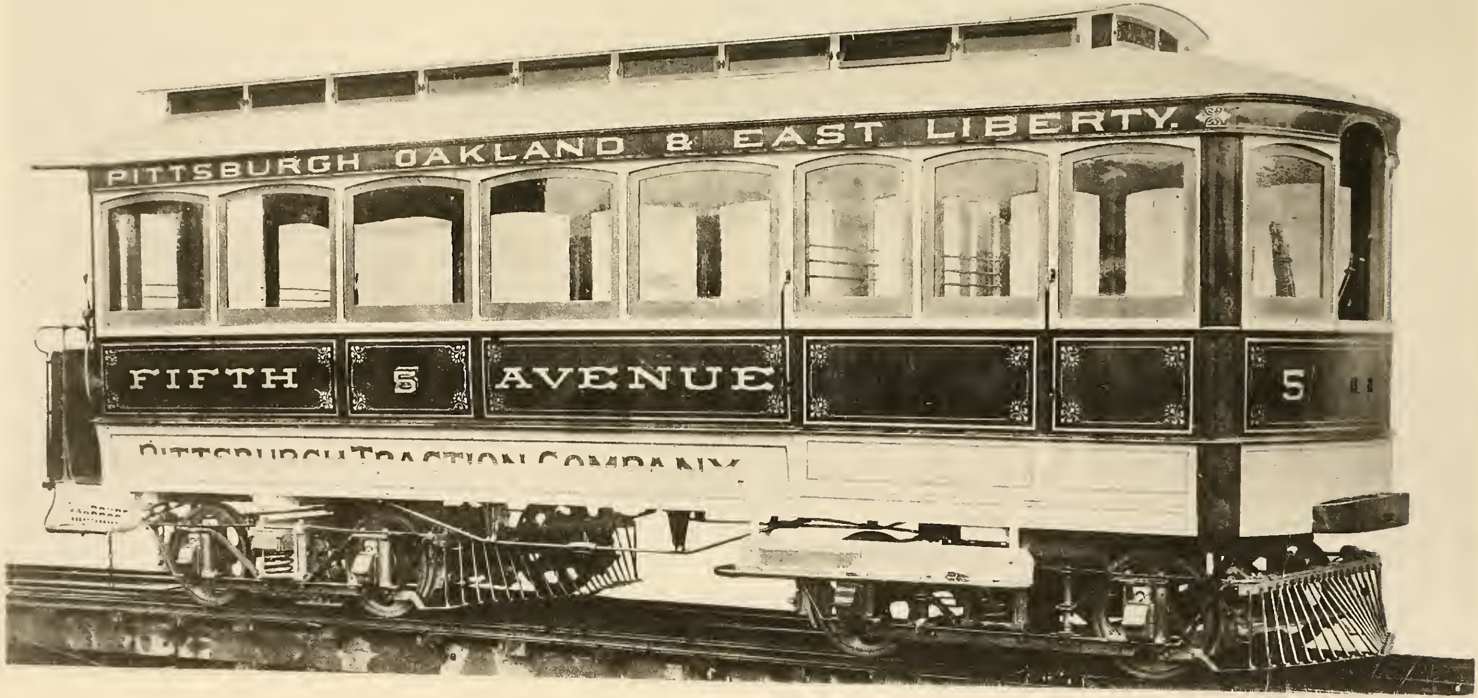

PITTSBURGH OAKLAND & EAST LIBERTY.
FIFTH
5
AVENUE
5
PITTSBURGH TRACTION COMPANY

FIGURE 9.

Fig. 3 shows an adjustable V-shaped fender, in which the elevation of the point may be regulated by a turn-buckle. This fender appears to be deficient in rigidity, and it possesses, though perhaps not in equal degree, the same bad features as No. 2, since it hangs by its own weight on the rod, and anything getting under the point would raise it somewhat.

There are various other forms of simple wooden V-shaped fenders, but it is not necessary to describe them. Some of them are connected to side boards extending from end to end of the car.

Fig. 4 is a curved fender, proposed by the West End Street Railway Company, and used on a few of their cars.

Fig. 5 shows the ordinary fender square across the track, at present used on most of the cars of the West End Street Railway. It is very close to the wheels, and is not brought down close enough to the ground.

Fig. 6 shows a V-shaped fender, hung from the car body. This fender is clearly of no value whatever on a car with one four-wheel truck. It is similar, however, to the fenders used at present on the cable line in Philadelphia.

Fig. 7 shows a form of fender attached to the front of the platform, with a wire guard along the side of the car. Our experiments have shown that this fender would serve no purpose, except as offering something for a person to catch hold of; while, if brought closer to the track than would be sufficient to allow a man's body to pass under it easily, it might in some cases do harm instead of good.

Figs. 8 and 9 show two forms of fender used with eight-wheel cars. If such cars are used, the front wheels are nearer to the front of the platform than in the case of four-wheel cars, and the fender may be more satisfactorily constructed, and will come nearer to fulfilling all the conditions necessary. It may even, if desired, be attached to the car body, although it would then be exposed to some little vibration, although this would be very much less than in the case of four-wheel cars.

The best form of V-shaped fender which I have seen in actual use is that on the Third Avenue road in New York, on 125th Street (a cable road). This fender is two and one-quarter inches in the clear above the rail at the side, and somewhat higher at the point; but it is provided along its lower edge with a strip of rubber hose, flattened and bolted to the fender, and coming down within one and one-half inches or less of the rail. The slot rail is slightly higher than the track rails, so that the fender is nearly equidistant from all points of the ground between the tracks. The centre portion of this fender is suspended from hinges, so that it may be raised when the car is run over the grip trap. This constitutes an objection which may be serious, since an object which gets wedged under the fender may succeed in raising the point so that the fender may pass over it. There has been one accident with the use of this fender, in which a man was run over, notwithstanding the closeness of the fender to the ground; but it should be said that the accident occurred just as the car was at the centre of a bridge in which the roadway was very much crowned, so that the point of the fender was considerably farther from the ground than would be the case on the ordinary track.

It will be seen that these fenders are either fixed fenders attached to the truck or to the car body, or else arranged to be movable in such a way that the point may be raised, which is the principal thing to be avoided in a fender. In none of these, generally speaking, is the fender brought sufficiently close to the rail except in the fender used on the Third Avenue cable road in New York. Information received from other cities shows that these fenders are generally from four to six inches above the rails, though in some places they are said to be closer. Thus, in East Harrisburg, Penn., they are said to be one and one-half inches; in Moline, Ill., two inches; in North Attleborough, Mass., two inches; and in Washington, D.C., two and one-half inches. Naturally the distance depends upon the character of the roadway.

Other forms of fenders are in use in a few cities. At Fort Worth, Texas, they use a square board like that shown in Fig. 5, but with a heavy rubber flap tacked or nailed on its lower edge, which scrapes along the ground. In Cleveland, Ohio, a fender is used which was devised by Mr. Thomas L. Johnson (sketched in Fig. 9*a*), and which consists of a horizontal shelf, six inches above the rails, extending two and one-half feet in front of the platform. It is composed of an iron rim, to which are attached bars or slats of iron, or, if preferred, a wire netting. Its width is equal to the width of the car, and it is attached by simply slipping the bars which form the rim through iron hangers attached to the steps. It can therefore be easily taken off. When tow cars are used, a guard may be attached to the rear of the motor car, covering the space between it and the tow car, thus rendering it impossible for a person to fall to the ground between the cars. This fender, however, can simply afford something to hold on to, or to catch a person who is struck while standing up; and it would do no other good in protecting a person who had fallen upon the ground, since it is too far above the rails. In another somewhat similar form of fender, which has recently been brought to your attention, but has not yet been in use, a metal frame carrying a rope netting projects several feet in front of the car, and is designed to catch any person who may be standing on the track when struck.

An objection to any fender or guard projecting much in front of the car, is that it would be liable to damage by collision with other cars or with vehicles.

As a further illustration of a fender which is used at present, I may mention the one in use on the cable roads in Philadelphia. It consists of a simple vertical shield, flat, but shaped something like a shovel, coming down to within two and one-half inches of the rail. There is one of these in front of each wheel. They are made of thin plate iron, bolted to a more rigid piece which is attached to the truck. Nothing extends across the track connecting these two shields; and, if a person were struck by one, he might be knocked towards the centre of the track, instead of towards the outside. This fender is an illustration of an appliance which would probably be worse than useless in most cases.

The conclusions which may now be drawn from all the experiments made, and from the considerations which have been adduced, may be summed up as follows: —

1. A fixed fender, attached to an oscillating car body near the front of the platform, is of no value in preventing a person lying on the track from getting under the car; since, in order to provide for the tilting of the car body, it must be too far from the ground to be of use in this way. Its value, which may be great, is to afford something which a person may catch hold of or fall on. If rigid and too near the ground, it may do harm instead of good, by crushing any person over whom it passes.

2. A fixed fender, attached to the truck, cannot project to the front of the car, but must extend only a short distance in front of the wheels.

3. A movable fender may be designed so as to accomplish its purpose of pushing a body in front of it, or possibly scooping up a body. All fenders of this kind, however, have the disadvantage of being complicated, and most of them would depend for their operation on the manipulation of the driver. In case of an accident, the driver would have to attend to shutting off the electric current, putting on the brake, and letting down the fender. He may omit to do the latter, or he may not do it at the proper time. Again, such fenders may unintentionally be let down when not wanted, especially when the platform is crowded. Further, such fenders would be liable to injury by striking ordinary obstructions in the track or pavement. The advantage of such fenders is, that they would keep a body from getting under the car at all. Their disadvantages, however, appear to outweigh their advantages. At first sight it seemed that a satisfactory fender of this kind could be designed; but further study has led

to the conclusion that the best as well as the simplest fender is a fixed fender attached to the truck, combined with something in front of the platform.

4. In the case of any fender, the principal feature, which determines whether or not a body will be pushed ahead or will work under the fender, is its clear height *above the ground.* If this is less than three inches, the chances are that a body of ordinary size would not be run over by the fender; and, even if it were four inches, the body would in most cases be pushed along. Much depends upon the size of the body and limbs; and, the smaller the size of either, the greater the danger of being run over.

Last spring, a child was run over on Shawmut Avenue, and crushed by a fender, which was between three and four inches above the ground. It was estimated that the thickness of the child's body through the chest was about five inches. A fender, therefore, which was more than two and one-half inches above the ground, would strike such a body, lying flat, above its centre, and would tend to roll and crush it; while, if it were less than two and one-half inches above the ground, it would strike the body below the centre, and would tend to push it along. Much depends, also, upon the elevation of the ground between the rails; and, if there are places where the ground is one or two inches lower than the top of the rails, while the fender is three inches above the top of the rails, a child might easily be run over.

5. None of the ordinary V-shaped fenders in use, which are from four and one-half to five and one-half inches above the level of the rail, and therefore in many places six inches or more above the ground, are at all satisfactory. They pass over a body in case of accident, and, as ordinarily arranged, they might do harm instead of good.

6. In the light of these considerations, it seems that the best form of life guard for electric cars should consist of two parts: —

First. A frame in front of the platform, fifteen to eighteen inches from the rails, and projecting as far as practicable, which, when a person is struck by an electric car, would give him something to catch hold of, and perhaps rest upon, and thus save himself from being run over. This frame may be made of iron gas pipe, or of iron rods, fastened to the under side of the steps, and extending from side to side of the car in front of the dasher, braced by rods to the sills of the car body, somewhat as shown in Fig. 10, or as in Mr. T. L. Johnson's fender, shown in Fig. 9 *a*. Such a life guard, projecting in front of the dasher, would be the first thing to strike a person standing in the track; and striking him below the waist, it would, if his back were towards the car, simply cause him to fall over backwards, enabling him to save himself. It should not project so far as to be liable

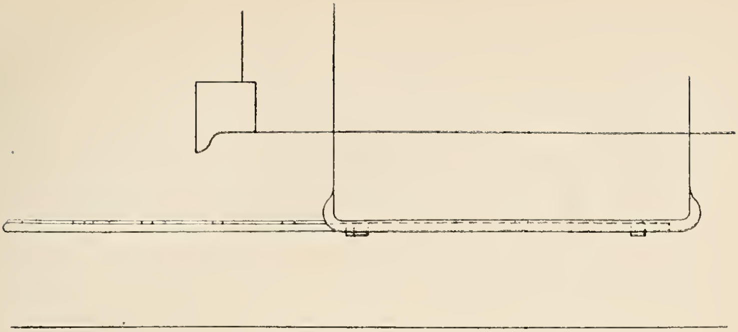
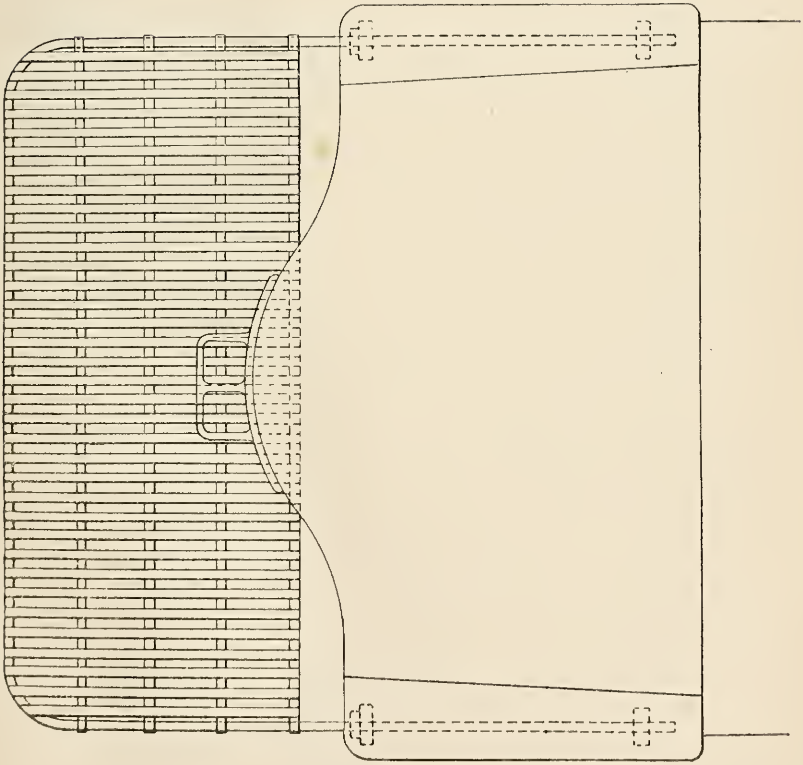


Fig.9a



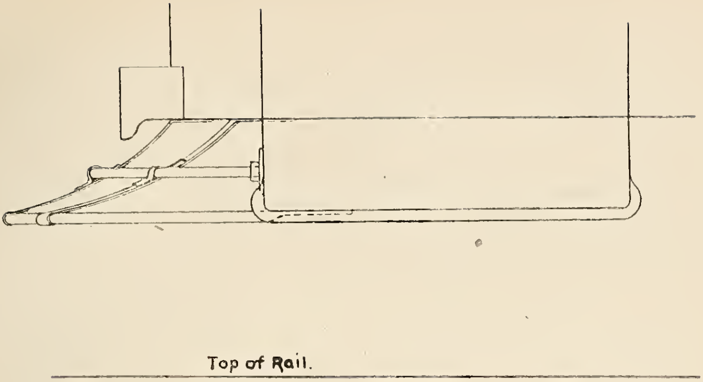
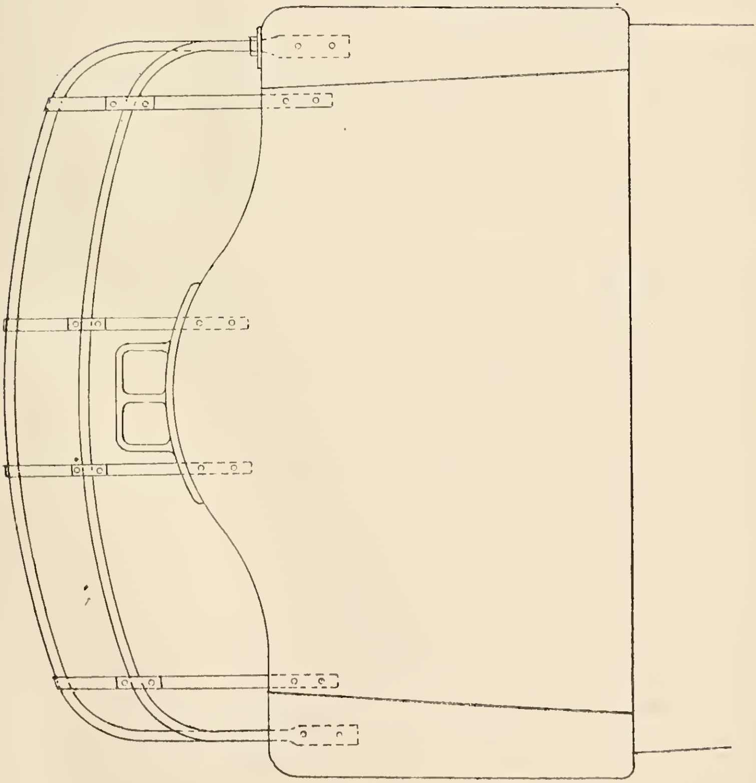


Fig. 10



to constant injury by collision with vehicles, yet sufficiently far that a person falling upon it would not be at once thrown forward by striking against the dasher. It should be designed so that a child falling upon it could not fall through it. As already stated, this portion of the life guard has not for its object to push a person along the track, and it could not be arranged to accomplish such an object. It should be sufficiently far above the ground to easily pass over a man's body; otherwise, it might do harm instead of good, by crushing or mutilating a person's body in a case where the car might have been stopped before the wheels reached him.

Second. There should be some form of fender attached to the truck, to save a person lying on the track from getting under the wheels. The best form of such fender is a *fixed* fender attached to the truck. The principal objection to such a form is, that, if its height above the ground is so great, or the body is so small that the fender rides over the body, the latter will be crushed, even if it is not run over by the wheels. It is difficult to see, however, how any other fender would be better in this respect; for, with the same height above the ground in all cases, any fender which is not free to move vertically would exert this crushing action, while any fender which *could* move vertically would simply allow the body to pass beneath it, and to get under the wheels.

This fender should be V-shaped, but with the point cut off square for a length of about twelve or fifteen inches. The proper length of the square portion in front is determined by the considerations heretofore referred to.

The front of the fender should be securely braced vertically against an angle iron connecting the two sides of the truck, and it should extend as far in front of the truck as is consistent with rigidity, and with being clear of the car when tilted. The fenders experimented with projected eighteen to twenty-one inches. This appears to be sufficient.

The fender should be as near the ground as is practicable, not over two and one-half inches above the level of the tops of the rails. The track should be repaired and kept in good order, so that the ground between the rails should not be lower than the tops of the rails.

The fender should have attached to its lower edge a continuous thick strip of rubber, or of rubber hose flattened and bolted to the wooden strip, and coming down still closer to the rails. The rubber should be brought down to within half an inch of the tops of the rails, and should be stiff enough to aid in pushing before it any part of a human body which it might encounter; while, if it came in contact with paving stones or other rigid obstructions, it would yield. Instead of rubber, any suitable elastic material may be used. The fender can be made of wood or of iron.

The work of pushing a body should be done by the lower edge of the fender, in order that the force may be applied as low down as possible; for it is evident that, the higher the force is applied, the greater is the tendency for the fender to work up over the body or to *roll* it along; while, the lower the force is applied, the greater the tendency to *push* it along, and perhaps to lift it. It appears advisable, therefore, that the fender should either slant or curve backward from its lower edge.

In order to prevent any part of a person's body from getting under the wheels from the side of the car, the fender might be extended longitudinally from one end of the car to the other, along the sides. This can easily be done in various ways, and the side portion may be either of wood or of iron. The side guard, however, does not appear to be essential.

Since the fender is not far in front of the wheels, everything under the platform should be kept as high as possible, so as to allow as much clear space as possible between the platform and the ground. Scrapers and sand spouts are a source of much danger, when they are in front of the fenders and constructed as at present.

Fig. 11 is a sketch showing in a general way the arrangement which seems to afford a good degree of safety. The details may be varied in many ways. Instead of having the body of the fender consist of a vertical plank, it might be made in the form of a horizontal shelf, similar to Mr. Johnson's fender, but trapezoidal in plan. The front would have to be braced by rods, as in Fig. 11, in order to ensure sufficient rigidity vertically, and the narrow front face should be bevelled, and provided with an elastic strip as described. Should a human being be pushed by this fender, there might be some possibility of his getting partly up onto the shelf, in spite of the rods which brace it, while it might be arranged to push him as effectively as the form shown on Fig. 11. It must not be expected, however, that any fender will be an absolute safeguard against loss of life, when a person is struck by an electric car. It is not possible to design a fender which will in *all* cases be effective; and, no matter what form of fender is adopted, a person cannot be struck by an electric car without danger of being killed. The best that can be done is to adopt a form which appears to afford the most reasonable assurance of safety.

Respectfully submitted,

GEORGE F. SWAIN.

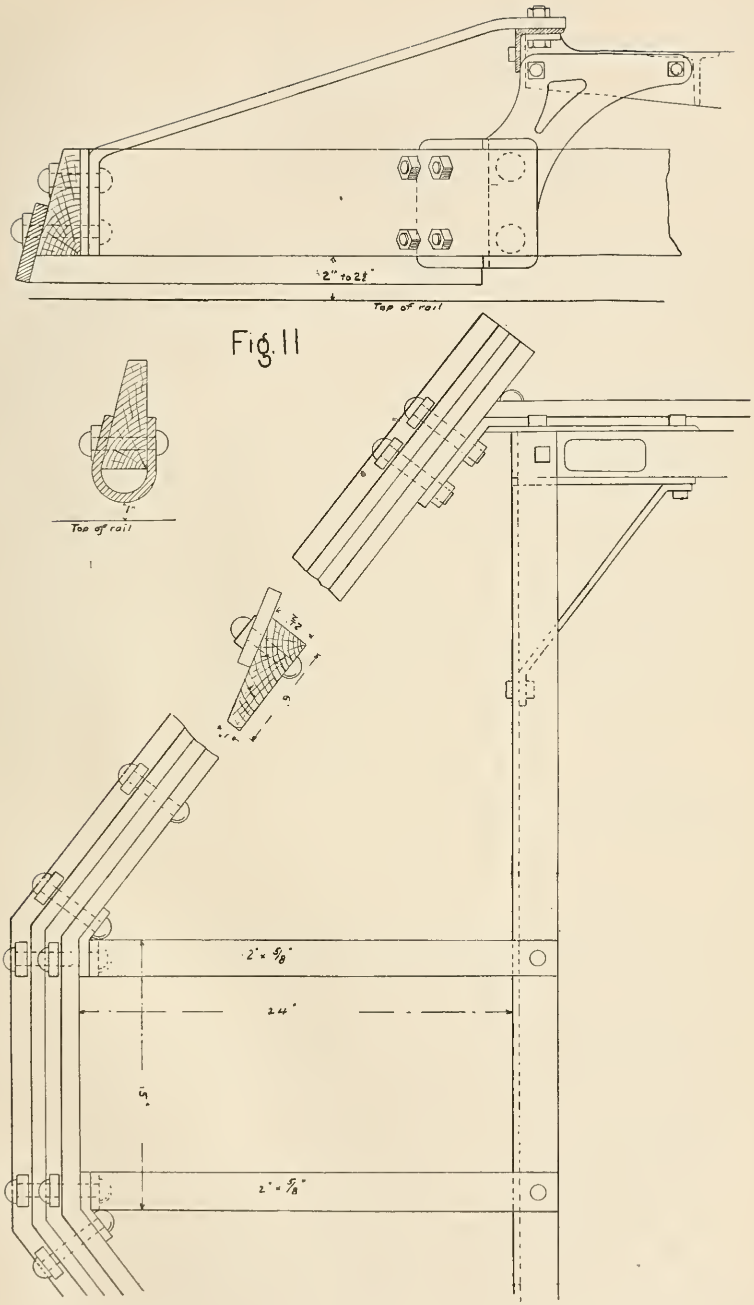


Fig. 11

CIRCULAR RELATING TO FENDERS ON STREET CARS, AND EXTRACTS FROM REPLIES RECEIVED.

COMMONWEALTH OF MASSACHUSETTS.
BOARD OF RAILROAD COMMISSIONERS,
NO. 20 BEACON STREET, BOSTON, Aug. 15, 1890.

To the President of the ——— Street Railway Company.

DEAR SIR: — Several fatal accidents in the operation of electric cars lead us to ask you if you will be kind enough to inform us regarding the kind of fender or life guard used on the cars of your road. We should like a detailed description of your fenders, stating material, shape, the clear distance from the level of the top of the rails, and the mode of attachment to the car. We should further like to know the character of the roadway between the rails, including the smoothness of the surface and its comparative elevation, and any other information which you may deem of value, especially information as to the circumstances under which your fenders have proved successful, and those under which they have failed.

We should also like to know whether you have any guards along the sides of your cars, and, if so, how they are constructed.

For a prompt and detailed reply we shall be greatly obliged, and trust that at some future time we can be of service to you.

Yours respectfully,

GEORGE G. CROCKER,
Chairman.

EXTRACTS AND MEMORANDA FROM SOME OF THE REPLIES TO THE FOREGOING CIRCULAR.

Mr. R. J. McCarty, general manager of the Metropolitan Street Railway Company, Kansas City, writes: "It would require a very thorough personal examination to enable anyone to appreciate fully the impossibility of making a fender which would not be unsatisfactory in many important points." On his lines V-shaped fenders are used, sometimes as much as four and one-half inches from the ground, and in no case nearer than three and one-half inches. The fenders used in Kansas City are in many cases connected with side boards extending close to the ground along the side of the car.

Mr. Joseph M. Patten, general manager of the Topeka Rapid Transit Company, writes as follows: "In relation to utility of fenders in saving life, my opinion is that they are useless, — a delusion and a snare. They look well, the public seems to feel a certain confidence in them, and in this way they remove in the public mind a small amount of objection to electric and other railroads which are propelled without horses and at a higher rate of speed than horse cars; but, for practical benefit, I consider them worse than useless." Mr. Patten cites two instances in which persons had fallen in front or on one side of cars on his line, in which they had been struck by the end of the fender and the blow had killed them, when they otherwise might have escaped. Mr. Patten further believes that, if cars could be run without fenders, the public would have more fear of them, and would be led to exercise greater caution; and he therefore believes that the best plan is to have no fenders at all.

Mr. F. G. L. Henderson, superintendent of the Newton Street Railway Company, writes that on his road the ordinary V-shaped fender, four inches in the clear from the rails, is in use. He writes as follows: "This device is at best only an imperfect life saver. In fact, my opinion is that it is of no practical value whatever for that purpose. As to what is better is still an open and unsolved question, as far as my knowledge extends."

The Milwaukee Electric Railway Company writes: "We had life guards on our cars, but they caused us so much trouble by catching and pulling off that we have just about abandoned them."

Mr. P. F. Barr, vice-president, St. Paul City Railroad Company, writes: "It is my belief that there are circumstances where life guards will not prevent accidents; in other words, it is my belief that there is no life guard which under some circumstances will prevent the wheels running over an ordinary-sized man or child when on the rails in the proper position."

The North Side Street Railroad Company of Fort Worth, Texas, write that they are using the flat square fender, coming down to within two inches of the ground, with a heavy rubber flap tacked or nailed to the bottom of this, which scrapes along the ground. They have had no accident to test the efficiency of this fender.

Mr. William M. Ramsey, superintendent of the Federal Street & Pleasant Valley Railway Company of Allegheny, Penn., writes that they use the V-shaped fender, three inches above the rail. He says: "These guards have proved effective in saving human life in one instance by brushing or throwing a child aside, and have failed in two by the guard rising and allowing the child to get under. On the whole, we do not consider our guard satisfactory."

The Citizens' Rapid Transit Company, of Nashville, Tenn., use the V-shaped fender, three and a half inches above the rail. One accident is reported in which a man was struck and knocked down by the car. The car was stopped, it is stated, within half its length, and the fender pushed or rolled the man ahead of it. He was, however, very seriously injured.

Mr. D. H. Goodrich, secretary of the Omaha Street Railway Company, writes that they are using various forms of V-shaped guard, but do not find them satisfactory. The gutters and heavy grades prevent their being placed close enough to the rail. He reports no particulars of accidents, but considers the fenders in use unsatisfactory.

John W. McNamara, general manager of the Albany Street Railway, writes that they are using a V-shaped fender, about four inches above the rail. He continues as follows: "We have found it impracticable to place any kind of a fender on the fronts of our cars, for the reason that the rocking motion of the body of the car would bring them in contact with the pavement, and destroy them. All of our rails are laid in paved streets, and are flush with the pavement, the whole street presenting a substantially smooth surface. For myself, I have no faith in any fender which I have yet seen as a means of preventing injury to pedestrians."

Mr. C. K. Durbin, superintendent of the Denver Tramway Company, writes that they are using the usual V-shaped fender, but find it unsatisfactory, and are now experimenting with the fender of Mr. Thomas Johnson of Cleveland.

On the other hand, as against these unfavorable opinions, some testimony has been received indicating the value of fenders. Thus, Mr. T. W. Wrenne, president of the United Electric Railway, of Nashville, Tenn., writes that on his road they use a V-shaped fender, attached to the truck and three and a half inches above the top of the rails, while the ground between the rails is often from one to three inches below the top of the rails. He continues: "We have found our fenders to be of great value. In several instances parties have been struck by our cars (by their own negligence), but not one has been run over by the wheels of the car. One of these was a child about seven years of age. The fender in each instance pushed the body along or aside until the cars were stopped."

Mr. C. E. Barnes, superintendent of the Plymouth & Kingston Street Railway Company, reports that they have a V-shaped fender which in one case pushed a boy ahead of it, and prevented his being run over. The fender was about four inches above the rail.

Mr. A. F. Breed, president of the Lynn & Boston Street Railway Company, reports that their V-shaped fender, about four inches above the top of the rails, pushed a man ahead of it, and prevented his being run over.

Mr. George Truesdell, president of the Eckington & Soldiers' Home Railway Company, Washington, writes that they use the

V-shaped fender, two and a half inches above the rail. He reports one case where one of the employees slipped from the step, and, falling on the rail, his leg was pushed off the track by the guard.

Mr. H. Holton Wood, president of the Derby Street Railway Company of Birmingham, Conn., writes that they use a V-shaped fender, four and one-half inches above the rail. He adds that there was one instance "where a child was pushed away and undoubtedly saved by the guard." He adds, however, "The present guard is, in my opinion, not satisfactory, although it is the best thing that I know of."

Mr. C. B. Holmes, president of the Chicago City Railroad Company (a cable road), writes that they are using a V-shaped fender, four inches above the rail at the point and two and one-half inches at the side. It is inclined vertically, and is connected with a plank extending along the side of the car, two and one-half inches above the rail. Mr. Holmes continues as follows: "Our experience has been that these fenders have saved the lives of a number of persons. I was on the front seat of a cable car myself at one time when a little child ran from behind a wagon directly in front of the car and was knocked down and pushed off by the fender, unhurt; had it not been for the fender, it would have been mutilated. I presume there have been at least thirty cases in the last five years where people would have been killed had it not been for the fenders. Serious accidents sometimes occur even with the fenders, but we consider them a very great protection and benefit."

Mr. Thomas L. Johnson, president of the Brooklyn Street Railroad Company of Cleveland, Ohio, writes as follows regarding his fender, which has already been described: "I think we have saved a number of lives by the use of this guard. It would take too much space to detail the circumstances of every case in which people have been picked up on the fender. I may instance one, which occurred here on the 4th of August last. One of our motor trains was travelling at an ordinary rate of speed on a crowded street, and unexpectedly turned into an unused curve at the intersection of two streets. The street was crowded, the people having congregated to witness a procession. Several policemen walked ahead of the car to clear the track of bystanders, and had turned into the curve spoken of, to let the car pass. The car turned into the curve, and the life guard struck three policemen and other people in the crowd, and four or five — perhaps more — fell upon the life guard. As a result, four people sustained sprained ankles. If the guard had not been upon the car, the probability is that several would have been killed."

[B.]

SPECIAL REPORTS ON ACCIDENTS.

Accident at the Wellington Station on the Boston & Maine Railroad, Western Division, on Jan. 25, 1890.

Hearing, Jan. 30, 1890.

Mr. S. M. Davis, a passenger on the 5.05 p.m. train from Boston, on Jan. 25, 1890, as he left the train at the Wellington station, was struck by an engine and killed. The train consisted of a "double-ender" engine, a combination car and three passenger cars. The conductor of the train was Albert Hamilton. The engineer was Frederick S. Sergeant.

It appeared that Mr. Davis got off from the front platform of the first passenger car on the side next the in-bound track, and that when he left the train it had either come to a stop, or was moving very slowly, at a rate less than four miles an hour.

Mr. Davis was struck by an in-bound wild engine. This engine was going at least ten miles an hour, probably considerably faster than that, and the fireman was ringing the bell. Mr. Davis evidently did not see or hear the engine, and, when struck, his back was partially turned towards it. He was thrown under the car from which he had alighted, and his body was found ten or twelve feet forward of the rear truck of that car, thus showing conclusively that, if the train moved at all after he left it, it could not have moved more than half the length of a car.

So far as the purposes of this inquiry are concerned, it is unnecessary to determine whether the train had actually stopped when Mr. Davis left the platform. The question as to whether the railroad company is liable for damages is not for us to determine. The object of our inquiry is simply to secure such reforms as may prevent similar accidents in the future.

The station at Wellington is on the west side of the railroad, next the inward track, and there is a platform on that side in front of the station, and extending southerly from the station three hundred feet. On the opposite or east side of the railroad, adjoining the out-bound track, is another platform beginning opposite the northerly end of the station, and extending about eighty feet farther south than the west side platform. Fifth Street comes down to the station from the west, but does not cross the railroad, as all the residences are on the west side of the tracks.

It appears that the engineer of the out-bound train, on approaching the Wellington station, having just met the through express, saw the head-light of an in-bound engine also approaching the station. The rule governing traffic in such a case is as follows: —

35. When a train on the double track is at a station receiving or discharging passengers, no other train must approach that station until the train that is stopping there has left it. When two passenger trains approach a station at the same time, the train from Boston will have precedence at the station, and the train bound towards Boston will stop back until the one having the right has started. Accommodation passenger trains must favor express passenger trains as much as possible, so as to avoid stopping the express trains unnecessarily; but express trains must not pass a station while another passenger train is stopping there. Freight trains must not pass or approach a station while a passenger train is stopping there, nor run into a station at the same time that a passenger train does so.

As the express had just gone along, the engineer of the out-bound train knew that another express train was not approaching, and it was also clear that there was no reason to fear that a freight train was approaching so fast that it could not stop. Under the rule, he plainly had the right to run up to the station, and it was the duty of the engineer on the in-bound engine to stop before reaching the station.

If the engineer of the out-bound train had drawn up to the station platform, as was his right, and had given no signal to the approaching engine, that engine would undoubtedly have been stopped, and no accident would have happened. The engineer of the out-bound train, however, when near the southerly end of the east side platform, from a desire to help the other engineer along, to prevent delay, or from some sudden impulse, at any rate with erroneous judgment, ordered his fireman to give a signal to the other engine to come by, and the fireman obeyed the order. The engineer of the out-bound train then moved slowly along, hoping that the in-bound engine would pass his train before he had arrived at the proper stopping point. He went, however, so slowly that the passengers, as soon as they found themselves opposite the platforms, began to leave the train. The engine being a double-ender, the fireman, then standing on the right or east side, discovered that the passengers were getting off the train onto the east side platform, and told the engineer. The engineer thereupon applied the brakes, and stopped immediately. His train was then one hundred and fifty feet to two hundred feet short of its usual stopping point, but nevertheless the whole train, with the exception of the rear half of the rear car, was opposite the platform.

Just as or just before the out-bound train came to a stop, the in-bound engine passed by. A gentleman and a young lady, who got off from the rear of the second passenger car on the left or west side, crossed the inward track in front of the approaching engine, and reached the station platform in safety, though the lady had a narrow escape. As Mr. Davis got off from the front platform of the first passenger car, he had a trifle less time in which to cross the tracks to the platform.

It is unsafe and wrong for a passenger to get on or off a moving train; it is also unsafe and wrong for a passenger, on a double-track road, to leave the train on the side next the other track; but both these things are done, and done so frequently, and by men of such ordinarily good discretion, that it is not sufficient to say that it is their own fault. Measures must be taken to prevent people from exposing themselves to danger in these ways. Half the accidents at stations last year happened to people in attempting to get on or off moving trains, and the other half to people crossing the tracks. The number of these accidents is increasing. In our report for this year, which is now being printed, as well as in the report of last year, the means of avoiding just such accidents as this are discussed at length.

It happens that a recommendation specially relating to this Wellington station was issued by the Board in November, 1886, on the complaint of B. W. Marks and others *versus* Boston & Maine Railroad; and, if that recommendation had been complied with by the railroad company, this accident would not have occurred. The complaint at that time was that an express train to Boston frequently ran by the Wellington station at the time when the 5.25 train from Boston was delivering its passengers, thus putting them in great peril. The rules of the Boston & Maine Railroad at that time, as at the present, forbade this being done; but there was evidence to show that the rule had been violated either wilfully or unavoidably on several occasions.

On that complaint the Board recommended that the platform for out-bound trains on the east side of the track, which was then only about sixty feet long, should be extended. This part of the recommendation was complied with, as the platform is now about four hundred and fifty feet long.

The Board further recommended that gates be placed on the platforms of the cars, and that the gate on the side next the in-bound track be closed and locked. This recommendation has been complied with, so far as putting the gates on the cars is concerned, practically all the cars of the Western Division being equipped with gates; but the management has failed to order any use to be made of the gates.

If the gates with which all the cars on this train were equipped had been closed on the west side, as recommended, Mr. Davis could not have left the train except on the side of the out-bound platform, and this accident would have been avoided.

The management gives as an excuse for not using the gates that the gates have not yet been applied to all the different divisions of the Boston & Maine system, and that, as cars are frequently changed from one division to another, it might sometimes happen that a car without gates would run on this division of the road. The excuse is not a good one.

All the cars on the Eastern and Western and the Lowell divisions of the Boston & Maine Railroad ought to be equipped with gates, — ought to have been equipped with gates before this. The suburban business on those lines is of such a nature as to demand the use of gates; but, even were this not so, even if the stations on the Lowell and Eastern divisions were so arranged that gates are unnecessary, still, there would be no good excuse for running cars on the Western division without gates. The facts are that gates are as much needed on one division as on the other.

It must not, however, be assumed that the use of gates will prevent all accidents at stations. Their use will prevent a certain class of accidents, of which the accident now under consideration is an example, but will not affect another class of accidents which are becoming more and more frequent every day as the number of trains and the number of tracks multiply. The gates closed on one side of the train compel the passengers to get off on the proper platform; but, if the passengers then have occasion to cross the tracks, they cannot do so without being in great peril.

If rule No. 35 were always followed carefully, there would be but little danger to the people who have occasion to cross the tracks after leaving a train; but there are difficulties in carrying this rule into effect. One is that if the engineer always brings his engine to a stop when he is in doubt whether he can pass a station before an approaching train reaches it, and if he remains until that train has so far left the station as to give an unobstructed view of the tracks, serious delay to traffic will result. On the other hand, just so sure as engineers attempt to help each other along, in order to avoid delays of traffic, just so sure instances will occur in which trains will rush by stations when passengers in fancied security are crossing the tracks. These difficulties and dangers can only be obviated by providing overhead bridges or subways, by the use of which passengers can cross the tracks, and by erecting fences between the tracks, so that the public cannot cross the tracks on a level therewith.

For the Board,

GEORGE G. CROCKER,
Chairman.

FEB. 3, 1890.

FATAL ACCIDENT ON THE WEST END STREET RAILWAY, ON BEACON STREET, IN BOSTON, Feb. 17, 1890.

Hearing Thursday, Feb. 20, 1890.

Mr. George H. Bradford and the horse on which he was riding were run over and killed by electric car No. 443 of the West End Street Railway Company, on the afternoon of the 17th of February, 1890. John B. Hanley was the conductor and D. W. Sizer was the driver of the car.

The point at which the accident happened was on Beacon Street, between five and six hundred feet west of the bridge over the Boston & Albany Railroad. On this portion of Beacon Street the two tracks of the railway are in the centre of the street, and there is a driveway on each side. The total width of the street is one hundred feet. A pile driver was at work on the north side of the street, and at each end of the land on which buildings were to be erected there was an open board fence running across the sidewalk and projecting a short distance into the roadway. It was near the westerly of these fences that the accident happened. The descent from the bridge over the Boston & Albany to this point is at the rate of between two and three feet in a hundred.

The testimony of the driver or motor man, Mr. Sizer, was straightforward and definite, and his statements were not contradicted by the other witnesses. He testified that the car left the Tremont House on its out-bound trip at 4.28, on time; that he suffered no unusual delay; that, when he reached the bridge over the Boston & Albany Railroad, he saw, a short distance in front of him, two gentlemen on horseback, also going out or west. One of these gentlemen, Mr. Bradford, was at that time on or between the tracks, and a considerable distance — two or three hundred feet — in front of the car. Mr. Sizer rang the gong, and Mr. Bradford passed off the track onto the right-hand roadway.

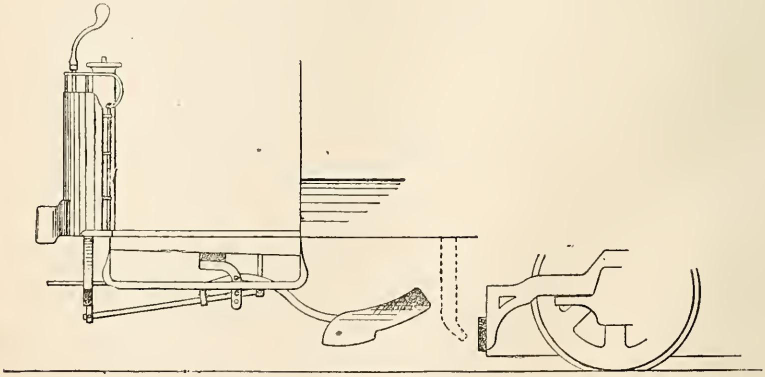
After crossing the bridge, Mr. Sizer used power until the car reached the speed which was customary on that part of the route, namely, twelve or fifteen miles an hour. He then shut off the power, and allowed the car to run, impelled by its momentum and by gravity. As usual on that grade, he had the slack of his brake taken up; he was able, therefore, to apply the brakes more quickly than in ordinary running on level ground.

Mr. Bradford was riding slowly, and the car rapidly caught up with him. When near the westerly of the two fences above described, Mr. Bradford's horse, frightened at the pile driver or some other thing on the right side of the road, suddenly shied upon the track, being then only from twenty to fifty feet in front of the car. Mr.

Sizer applied the brakes as quickly and as hard as he could, but was unable to stop. The car struck the horse on his hind quarter, and threw him down. Thereupon the brake rod, projecting below the platform, was broken off by striking the horse's body, and the brakes were released. The car then passed entirely over Mr. Bradford and his horse, and after the accident their bodies were lying between the rails eight or ten feet behind the car, which in passing over them had been raised up a foot or more, and had been derailed.

The brake rod on this car came down to within eleven inches from the ground. The oscillation of single-truck cars is such that the front end of the platform may rise or fall four or even six inches from its normal position. The sudden application of the brakes would throw the front end of the car down; and it is therefore probable that the bottom of the brake rod, when it struck Mr. Bradford or his horse, was not more than eight or nine inches from the ground. The horse was undoubtedly thrown down with his legs towards the car, and it appeared that Mr. Bradford fell between the horse and the car.

Behind the brake rod were the cast-iron snow scrapers, one on each side, over the rails. These come down to within four inches of the ground. A person might pass between them, but could not pass under either of them without being terribly mutilated and probably killed. After the accident they were found to be unbroken and only slightly bent.



Behind these scrapers was the fender, so called. It consisted of a stout board attached to the truck, extending across the car parallel to the axles and just in front of the wheels, its lower edge being four inches above the top of the rails. This fender broke. The bodies of Mr. Bradford and his horse, when struck by the fender, were jammed between the floor of the car and the ground. The whole weight of the front of the car, already considerably raised, was resting on them.

Next behind the fender were the wheels and the motor. The motor was encased in sheets of corrugated iron, the sheet forming the bottom of the case being three inches from the ground. This corrugated iron casing was broken as the car went on and up over the bodies.

It appeared that the speed of the car was about the average speed of cars going out over that portion of the route. The company knew how fast its cars were running, and the city authorities had practically given their consent. Prior to Dec. 30, 1889, by the standing regulations of the board of aldermen, the speed of street cars outside the heart of the city had been limited to seven miles an hour; but on that date this limitation was annulled.

The motor man was doing what he and other motor men, with the consent of the company, had been doing for months without accident. His hand was on the brake. He had taken up the slack, and his attention was not distracted. He had taken all the precautions which he was expected to take. The way in which he gave his testimony showed that he was clear-headed, as well as truthful.

It seems that Mr. Bradford also was exercising reasonable care. He did not intentionally turn upon the track immediately in front of the car. His horse carried him there, in spite of his exertions to the contrary. He was a good rider, but skill in riding and driving cannot always prevent shying. The shying upon the track was probably almost as unexpected to Mr. Bradford as it was to the motor man.

While the accident would not have happened if the horse had not shied, still, its lesson is none the less distinct, that the company ought not to run, and ought not to be allowed to run, its cars as now equipped, at such high speed.

To the matter of the speed of electric cars the Board called attention in its report for this year as follows: —

> Cars propelled by electricity can on good track and under favorable circumstances go at the rate of at least twenty miles an hour. This possibility of attaining great speed will soon call for regulation. The control of the speed of street cars is now vested in the city and town governments.

In our crowded streets, even on a wide avenue like Beacon Street, the unexpected happens very often.

It is only six feet from the dasher of the car back to the wheels.

A car cannot be stopped in six feet unless it is going very slowly indeed.

Last May the Board had occasion to investigate an accident on Cambridge Street, which resulted in the death of Mr. Frederick H.

Lorey. In that case an electric car with two tow cars was passing slowly down Cambridge Street. Mr. Lorey attempted to get upon the running board at the rear of the second car. Having bundles under his right arm, he did not use his right hand as he ought to have done in approaching the car from the right side, but with his left hand he caught hold of the rail on the rear dasher of the car. He lost his balance, swung round and back, and fell across the track directly in front of the third car, the forward wheel of which passed over him; and by the wheel, the brake rods and other projections under the platform of the car, he was fatally injured.

In the report on that accident the Board used the following words, which will be found on page 107 of the annual report just issued: —

> The Board has already, by repeated recommendations, advised the company that the safety of the public demands that the electric cars should be furnished with complete and effective fenders surrounding the cars on all sides, so that a person falling in front of such a car or at its side would be pushed aside by the fender, and thus be saved from being crushed under the car. The Board once more renews that recommendation. . . . The fenders should be applied with the utmost expedition possible. . . . There is no question that the present practice is unnecessarily dangerous, is definitely bad, and that it ought not to be continued.

In the body of the annual report for this year the Board again calls attention to the subject as follows: —

> Electric cars more than horse cars, need a sure fender for the wheels, on the sides as well as on the ends of the car. Horses are themselves fenders for the wheels. They may push a person off the track, or, even if they knock a person down, there is a chance that the car may be stopped before the wheels reach him; but, if a person is struck by an electric car, the chances for his escape are very small, unless the car is provided with an efficient fender. The greater speed of electric cars of course largely increases the danger. The attention of the West End Street Railway Company has several times been called to this matter, but as yet no proper fender has been provided.
>
> As the number of electric cars increases, it is to be expected that there will be a decided increase in the number of men, women and children run over and mutilated or killed. The fenders and guards now in use on the electric cars of the West End Street Railway will, in the opinion of the Board, in case of accident act rather as instruments of mutilation than as means of safety.

This accident has demonstrated that the fears entertained by the Board and repeatedly brought to the attention of the West End Company were by no means exaggerated.

For more than a year, therefore, the Board has been endeavoring to secure the adoption of some efficient fenders, and has repeatedly called the attention of the company to the inadequacy of their present so-called fenders.

The Board has reason to believe that the company has paid considerable attention to the question. To the repeated suggestions and recommendations of the Board its officers have replied that they have given to the subject very careful thought and study, but have yet been unable to devise for single-truck cars any fender better than those above described. If no suitable fender can be attached to the front of a single-truck car, then the use of such cars ought to be discontinued, or their speed limited to six or seven miles an hour, except in those places where a portion of the roadway is devoted to the exclusive use of the street railway. It is not denied that a double-truck car can be equipped with a good and efficient fender.

Until suitable fenders have been devised and have been applied to the cars, we most earnestly urge the various city and town governments to require that the speed of electric cars shall be limited to six or seven miles an hour; and we again urge the West End Street Railway Company to spare neither pains nor expense in devising and providing efficient fenders. If a person is struck by a rapidly moving car he will in any event suffer serious injury; but, if he can be saved from passing under the platform, saved from being mangled by the brake rod and the snow scrapers, and from being crushed under the wheels or under the motors, there will be some chance that he will escape with his life.

GEORGE G. CROCKER,
EDWARD W. KINSLEY,
EVERETT A. STEVENS,
Commissioners.

Feb. 20, 1890.

Collision near the Winter Hill Station on the Lowell Division of the Boston & Maine Railroad, Feb. 25, 1890.

Hearing Feb. 28, 1890.

At 8.45 o'clock on the morning of the 25th of February, on the Lowell division of the Boston & Maine Railroad, just south of the Winter Hill station, the Montreal express train No. 53, scheduled to leave Boston at 8.30 A.M., and consisting of a baggage car, a passenger car, a mail car, a baggage express car, a Wagner car and two passenger cars, of which the last was a second-class car used as a smoker, was run into in the rear by the Lowell passenger train No.

59, scheduled to leave Boston at 8.35 A.M., and consisting of a combination car and two passenger cars. The conductor of the Montreal train was Alfred M. Goodhue, and the engineer Alonzo B. Fall. The conductor of the accommodation train was Sewell E. Hill, and the engineer John C. Clarke. Several persons were injured, but at the time of the hearing it was thought that none of the injuries were of a serious nature. No one was killed. The forward end of the rear car of the Montreal express and the rear end of the car in front of it were badly damaged, and the front of the engine of the 8.35 train was also injured, the cow-catcher being broken and the smoke-stack knocked off.

The portion in question of the Lowell division of the Boston & Maine Railroad is provided with the union electric block system, each signal being numbered, and the odd numbers being for the signals on the out-bound track. At the various junction points there are also high board targets, to indicate the condition of the track at the junctions. The weather was foggy. The Montreal express did not leave the station until 8.32, two minutes behind time, and just before the rear of the train had left the station, was stopped and delayed about three minutes by shifting engines. These delays were said to be due to the fog, which had prevented trains from running on time. The Montreal express then proceeded. The high board targets at the various junction points showed all right, and the several electric block signals were white when first seen by the engineer, thereby indicating a clear section in front, and turned to red before he passed them, thereby showing that the system was working correctly. Although the fog was thick, the engineer of the Montreal express, and his fireman also, when the latter was on the lookout, found no difficulty in seeing the electric signals before the engine reached the point at which the signal, if at white, should turn to red.

After passing Signal No. 11, which, like the preceding signals, indicated a clear section, the engine, when opposite the Prospect Hill station, ran over a torpedo which had been left by the preceding train, also delayed. The engineer of the Montreal express then slowed down to four or five miles an hour, and continued at that rate until reaching Signal No. 13, which also was at white when first seen, and turned to red on the approach of the engine. The engineer of the express then concluded that the section must be clear, and increased his speed to ten or twelve miles an hour, and when near the Winter Hill station he felt the rear collision.

The effect of the collision was in the first place a sudden push forward, immediately succeeded by a severe pull backward, which was so sudden and powerful that the coupling link between the tender and train was broken. This pull backward was due to the fact that, when the collision occurred, the air brake pipe in the rear car of the express was broken, and thereby the brakes were suddenly applied to the whole train.

The 8.35 train left the station in Boston two minutes behind time, being also delayed by shifting operations in the yard. Mr. Clarke, the engineer, has had seventeen years' experience as such, and has a good record. He stated that Signal No. 1 when first seen by him was white, and that it changed to red when his engine got within proper distance of it; that he was then going about ten miles an hour; that the first target, at Prison Point crossing, indicated safety; that just beyond this target Signal No. 3 was red when he first got a glimpse of it through the fog. Presuming that it had been white before he was able to see it through the fog, and that his own engine had changed it to red, he proceeded, reducing his speed, however, to about eight miles an hour. The board target at the junction with the freight tracks was found to be all right, and he continued at the same speed. When he first caught sight of Signal No. 5, that was, like Signal No. 3, at red; Signal No. 7 also red. The fog was even thicker at this time than when he started. On reaching the board target at the junction with the Grand Junction tracks, that target was found to show all right, and he thereupon increased his speed. At Signal No. 9 which, when first caught sight of, was, like the other signals, also red, he was going at the rate of about ten miles an hour. The high target at the junction with the Mystic branch indicated all right, and he proceeded at the same speed. Signal No. 11, like the other signals, was red. He then increased his speed somewhat, and when he passed signal No. 13, which was also red, he was going at the rate of about twelve miles an hour. Just before he reached the Winter Hill station he saw the rear end of the express, then only from thirty to fifty feet distant from him. He applied his brakes, reversed his engine and gave steam, and pulled open his sand box, and ran into the rear of the express, as above described.

His explanation of his course is that in his opinion the fog was so thick that he could not see the electric signals until he had got so near them that they would have turned to red in consequence of the approach of his own engine. Rule 277, which relates to the union electric signals, is as follows: —

> 277. A train or engine may pass these signals if they are found "white" by day or "green" by night (before the engine enters upon each section), if they turn to danger before the engine passes; but, if they do not change to danger before the engine passes, or if they are found at danger, — that is, showing red before the sections they represent are reached, — trains or engines must come to a full stop immediately, and then proceed carefully

and under full control through the section, not exceeding six miles per hour around any curve or obscure place, expecting to find the track occupied by a train, or cars, or a switch open, or rail broken or up.

The rule and the engineer's own statement are his condemnation. The rule is explicit. The course which he ought to have followed is absolutely clear. The excuse that the fog was so thick that he could not see the signal in time to tell whether it indicated safety or danger is no justification for his course. To assume that a signal which he could not see on account of the fog indicated safety, and to proceed through a fog at such a rate that he certainly could not stop within the distance that he could see, was the extreme of recklessness. He violated the fundamental principle which always governs the train service; namely, in all cases of doubt or uncertainty, take the safe course, and run no risk. It was not developed at the hearing whether he did in fact know that the Montreal express did not completely leave the station until his own time for starting; but this was certainly a matter which he ought to have taken notice of, and, if he did notice it, his course is the more inexplicable.

The schedule time for the 8.35 train from Boston to Somerville junction, 0.38 mile beyond Winter Hill station, is seven minutes. This would make the schedule time to Winter Hill station a little over six minutes. On the morning of the accident the Montreal express ran this distance in ten minutes from the time it finally left the station, encountering one torpedo on the way, but finding all the electric signals and targets indicating a clear track. The 8.35 train, however, ran this distance in eight minutes from its actual starting time, in spite of the fact that all the electric signals except the first indicated danger when first seen through the fog.

The strangest and most deplorable circumstance relating to the matter is that Engineer Clarke, at the hearing, in reply to a question, declared that he still thought he was right in doing as he did, and that he should do the same thing again under similar circumstances. Since the hearing it has come to the knowledge of the board that two of Mr. Clarke's children had lately died; and we cannot but express the hope that, under other circumstances, with a mind free from grief and anxiety, his judgment and his practice would have been better.

As both the engineer and the fireman of the express were able to see the electric signals before they changed from white to red, and as Engineer Clarke testified that he could not see a sufficient distance to tell whether or not they changed from white to red, as the 8.30 train was probably at no time more than two minutes ahead of the 8.35 train, and as the difference of time when the two trains passed Signal 13 could have been only a few seconds, a doubt arose concerning the sufficiency of Engineer Clarke's eyesight. A test made at the hearing in the rooms of the commission indicated that his eyesight was good. It is probable that he could and did see all the electric signals at a distance at which they ought to have been white if the section which they protected was clear. Signal No. 11 and the other signals which when first seen by Engineer Clarke were red, were undoubtedly at red, because the express had not left the section which they protected.

Engineer Clarke's duty to come to a full stop when he saw Signal No. 3 at red is so plain that it seems superfluous to make a rule covering obstructions of view by storm or fog; and yet on some of the roads the exact case is met by the following rule: —

> In case of fog or storm obscuring the sight so that enginemen are not perfectly sure as to the position of the block signals as they approach the point of turning them, enginemen must assume that the target is against them, and must slow down to the most perfect control, and run so as to be able to stop certainly within the distance that can be seen ahead, until the section is passed, and until the fog or storm permits clear sight of the signals. Similar precautions must be observed in case the block signal lights become extinguished by night

Another question of neglect of duty arises in this case. Did the engineer of the Montreal express comply with the rules? When near the Prospect Hill station, he struck a torpedo, and, according to his own statement, did not stop, but slowed down to four or five miles an hour; but, on seeing Signal No. 13, which was just beyond the Prospect Hill station, change from white to red, he concluded that the track was all right, and increased his speed to ten or twelve miles an hour. The rule in regard to torpedoes is as follows: —

> When an engine in clear weather, with half a mile or more of clear track ahead, runs over and explodes one torpedo, it may be considered a flagman's cautionary signal, and the engineman will at once reduce his speed to not exceeding six miles per hour, proceeding cautiously at the same rate of speed until the danger is known or the way known to be clear. In any other weather or in any other place than with half a mile of clear track ahead, when an engine runs over and explodes one or any number of torpedoes, the engineman will stop as soon as possible, and only proceed when he and the conductor are satisfied they may safely do so.

Taking this rule by itself, it was plainly the engineer's duty on this foggy morning to stop on exploding the torpedo, and not proceed again until he had consulted the conductor. Engineer Fall is able to plead in excuse for not stopping when the torpedo exploded, that Rule 16, relating to the measures to be taken in cases of accidents and delays, after stating under what circumstances a signal man is to leave a torpedo on the road or a red and blue flag or a standard fusee, continues as follows: —

> Trains or engines approaching such signals must immediately reduce speed so as to be able to stop within seeing distance on curve, grade or straight line, and must so run at reduced speed until they have positive knowledge as to the whereabouts of the delayed train and of its safety.

Taking this rule by itself, the inference might be drawn that an engineer, on running over a torpedo, need not come to a full stop. There are then two rules, one expressly stating that, if the engine explodes a torpedo when the weather is not clear, or when the track cannot be seen for half a mile ahead, the engineer must stop as soon as possible; and the other rule intimating indirectly that it is only necessary to reduce speed so as to be able to stop within seeing distance. It was Mr. Fall's duty to follow the explicit rule.

A definite statement of duty contained in a rule covering a special subject cuts off the right to draw contradictory inferences from other rules. Mr. Fall's neglect to comply strictly with the rule requiring him to come to a full stop did not, however, contribute to the accident. In fact, inasmuch as the 8.35 train was following close behind him, without regard to signals, it is probable that, in spite of the greatest activity on the part of his rear brakeman, the accident would have been more serious if he had actually stopped.

Another question arises as to the duty of the conductor and rear brakeman of the Montreal express. According to the testimony of Engineer Fall, his train did not completely leave the station until about 8.35 A.M. It was then on the time of the 8.35 train; and, as the 8.35 train is due to pass Somerville junction at 8.42, and the collision occurred before the express train reached Somerville junction at 8.45, it follows that the express train, from the time it started until the time of the collision, was running on the time of the 8.35 train. The duty of the conductor and brakeman under such circumstances is not made plain in the rules. Rule 12 is as follows: —

> 12. Subject to Rule 11½ (which rule relates to trains delayed more than twelve hours) a train which is delayed and falls back on the time of another train of the same class does not lose its rights. It will leave with some reliable employee such information as may be necessary for the safety of the following trains.

No such information was left with any employee, unless the electric block system may be considered a reliable employee.

Rule 320 is as follows: —

> In order to insure greater protection to trains that may be stopped or detained on the road, the rear brakeman on all trains will be furnished with self-igniting fusee signals, which will display a red light. . . .

Rule 322, also relating to fusee signals, is as follows: —

> Conductors will see that their brakemen understand them, and must give their personal attention to their use, and be sure that sufficient precautions are taken to insure perfect safety from any following train. . . .

These rules indicate that it was the duty of the conductor to see that fusee signals were thrown out, and that it was the duty of the rear brakeman to make use of such signals, even without special instruction; but in Rule 16, above referred to, is the following: —

> When a train is moving slowly by dark or dusk on the time of a following train upon any portion of the road that is unprotected by the electric block signals, lighted fusees should be dropped upon the track at intervals, as long as the rear of the train is in danger.

It follows that, on those portions of the road which are protected with the electric block signals, the use of lighted fusees is not required, even by dark or dusk; and the natural inference is, that, if it is unnecessary to use any fusee by dark or by dusk, it is unnecessary to use a fusee by daylight or in foggy weather.

While the conductor and rear brakeman of the express did not violate definite and specific rules, nevertheless, the circumstances were such that a due regard for safety demanded that a fusee should have been dropped. Had such a precaution been taken, the accident would undoubtedly have been avoided. The proper rule to be followed in such cases is well expressed in the train service rules on some roads, as follows: —

> When a train is moving slowly by dark or dusk or in fog on the time of a following train, lighted fusees should be dropped upon the track at intervals as long as the rear of the train is in danger.

The ambiguity of the rules, as developed in the investigation of this accident, calls for immediate attention and correction. Moreover, the rules for the different divisions of the Boston & Maine system should not differ as they now do, in substance, in phraseology or in arrangement. We urgently recommend the adoption of a revised consolidated code, applicable to the whole system, and based on the Time Convention's code.

GEORGE G. CROCKER,
EDWARD W. KINSLEY,
EVERETT A. STEVENS,
Commissioners.

March 15, 1890.

ACCIDENT AT CHICKERING STATION ON THE PROVIDENCE DIVISION OF THE OLD COLONY.

At seventeen minutes past three on the afternoon of the 25th of February, 1890, a collision occurred opposite the Chickering station in Boston, between train No. 808, being an express leaving Providence at 2 P.M., and consisting of a baggage car, a smoker and five passenger cars, and a train of two cars which were being switched from the south-bound or outward main track to the north-bound or inward main track.

The conductor of the Providence express was Charles H. McLoon; the engineer, Augustus W. Spurr. The engineer of the switching engine was William B. Hoyt. The switchman operating the switch on the out-bound track was John Early, and the switchman operating the switch on the in-bound track was James Conboy.

At the point where the accident happened there is a crossover from the out-bound to the in-bound track, and another crossover from the in-bound track to the third track, so called, which in its turn is connected with various sidings. On the in-bound track there is a block signal, about nineteen hundred feet south of the crossover. On the day of the accident the weather was foggy, and trains had been somewhat delayed thereby.

It was owing to some delay, for which Mr. Hoyt, the engineer of the switching engine, was not responsible, that he was about half an hour later than usual in bringing out from Boston two cars on the out-bound track. He ran beyond the crossover switch, and came to a stop awaiting an opportunity to cross to the in-bound track and then pass from that track to the third track, so called, or to some of the sidings. It was a little after fifteen minutes past three, and the Providence express was then due.

Engineer Hoyt received the proper signal from the brakeman at the other end of his train, and proceeded to push the cars back over the crossover. While he was doing so, a signal to stop was given to him by Switchman Early, whom he saw running towards the south, and waving a red flag. He stopped as soon as possible, and was assisted in so doing by the brakemen on the cars. He then tried to pull back to the out-bound track, but was unable to do so, because the brakeman on the car farthest from the switching engine, seeing the impending danger, had set his brakes, and then had jumped to save his life.

When the cars stopped moving, the car farthest from the switching engine was standing with a small portion only of its end projecting over the in-bound track, and, had the brakes then been released, there would probably have been time to move the cars sufficiently to avoid collision.

The Providence express, a few minutes behind time, passed the Roxbury station going at the rate of about thirty-five miles an hour. When it reached the electric block signal above referred to, it was going at the rate of about twenty miles an hour. The signal indicated safety, and turned to red in the face of the engineer, as usual.

Either owing to the fog or to the smoke of the switching engine, neither Engineer Spurr of the Providence express nor his fireman discovered the position of the cars on the crossover until it was too late to stop. In fact, they were not aware of any danger until they saw Switchman Early waving a red flag. Engineer Spurr then applied the brakes, and did all in his power to stop. He was probably going at the rate of fifteen miles an hour when his engine struck the car on the crossover.

The engine was derailed, but was rerailed again at the frog a few feet beyond, and the engine and one of the trucks of the baggage car were found to be on the rails after the accident. Each of the three cars next behind the baggage car was turned over on its side, and the last two cars in the train were derailed, but not turned over. Several persons were injured, but none of the injuries were believed to be fatal.

No blame attaches to Engineer Spurr of the Providence express. He was proceeding at the customary rate of speed, and the block signal when he approached it undoubtedly indicated a clear section.

It appeared that John Early, the switchman on the out-bound train, threw his switch for the switching engine and cars to cross over, and then seeing, or thinking that he saw, James Conboy throw the switch on the in-bound main, he gave a signal to the brakeman on the end of the car nearest to him, and the brakeman gave the signal to the engineer of the switching engine to cross over. James Conboy, however, states that, though he started to throw his switch for the cars to cross over, he suddenly realized how dangerous such a course would be, and, if he moved the switch handle at all, he moved it only part way, and then immediately put it back for the main track. His testimony as to what he did was not definite and clear, and was unsatisfactory.

Switchman Early, after giving the signal to the switching train to cross over, either discovered that Conboy's switch was not right, or else was impressed with the fear that the express might be approaching; and he accordingly ran round the end of the car, and then, seeing or hearing the approaching train, ran towards the south, waving a red flag to stop the switching engine and also to stop the express.

Throwing the switch at which James Conboy was standing would have changed the block signal above referred to, if at white, to red, and would therefore have given a signal to an approaching train to stop.

If these switchmen and the engineer of the switching engine could have seen the block signal as usual, and could have been sure that there was no train near it, then they might have been justified in permitting the switching engine and cars to cross over, on the ground that the choice lay between delaying an in-bound express train, which might be late, and delaying an out-bound train then nearly due, and undoubtedly on time. But, inasmuch as owing to the fog they could not see the block signal distinctly, and could not see whether a train was in its vicinity or not, each one of them, so far as he was a party to the passage of the train from the out-bound to the in-bound track, must be charged with an erroneous and careless act, involving the train service in great danger, but committed while they were honestly trying to do their work with the least possible delay. Of two courses presented to them, they did not take the safe course. They did take the more dangerous course.

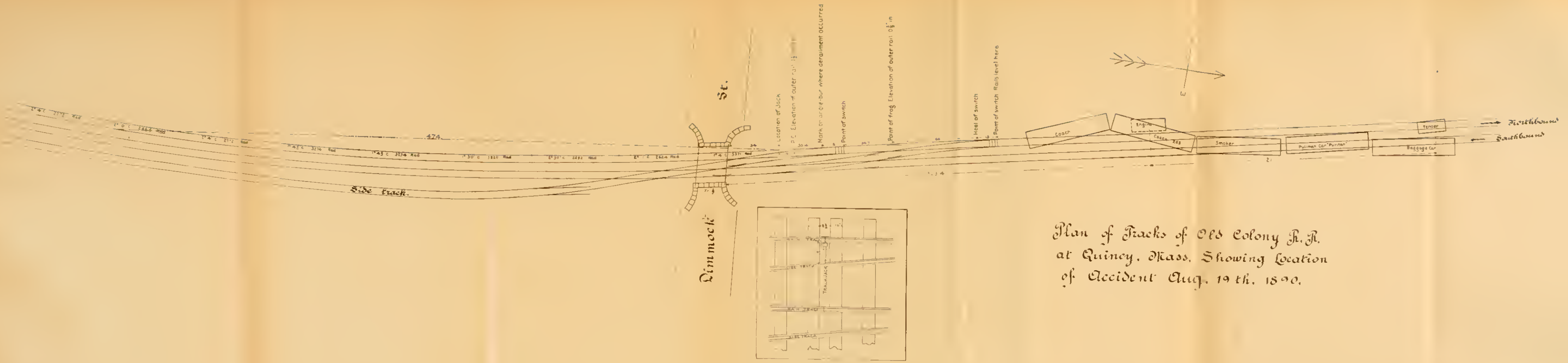
As a matter of fact, the Providence express had undoubtedly entered into the block when Conboy was manipulating his switch, and when Switchman Early gave the signal to cross over.

The operating conditions at this point of the track have involved too many elements of danger. Where there is so much switching, trains ought to be permitted to run only at such speed that they shall be under full control. The switches also and the signals should be interlocked, so that, when a train has received a signal for a clear track, no switch on that track can be moved until the train has passed.

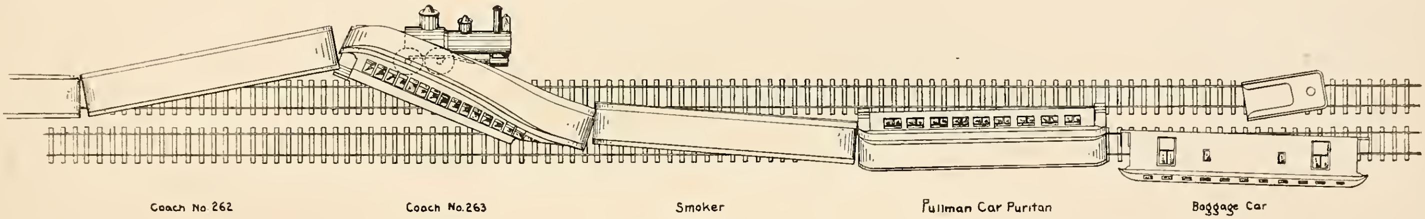
It is unnecessary, however, to make any recommendation in regard to this matter, as the officers of the Old Colony Railroad at the hearing stated that it was their intention to place the portion of the track in question within yard limits, and to establish an interlocking system there as soon as possible.

GEORGE G. CROCKER,
EDWARD W. KINGSLEY,
EVERETT A. STEVENS,
Commissioners.

MARCH 29, 1890.

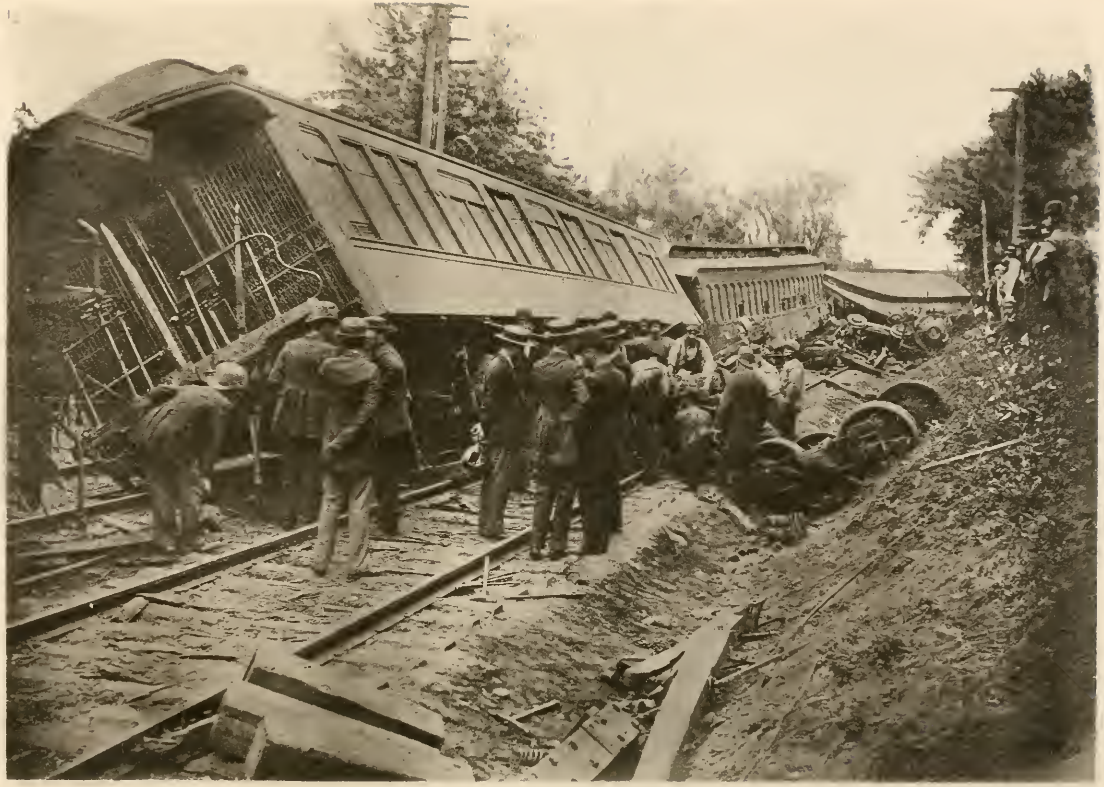


Plan of Tracks of Old Colony R.R.
at Quincy, Mass. Showing Location
of Accident Aug. 19th, 1890.



PLAN OF WRECK AT QUINCY MASS

Note. Both tracks badly torn and twisted
No attempt has been made to show this



View from the northwest, showing the rear end of the baggage car on its side, the Pullman, the smoker, passenger coach No. 263, and the engine.

ACCIDENT ON THE OLD COLONY RAILROAD, NEAR THE QUINCY STATION, TUESDAY, AUG. 19, 1890.

Hearing, Aug. 21, 1890.

Train No. 182, known as the Vineyard, Nantucket & Hyannis Express, leaving Wood's Holl at 10.45 A.M., and due in Boston at 1.10 P.M., was wrecked shortly after passing the Quincy station at a point just north of the Dimmock Street bridge, at about 12.58 P.M., on Tuesday, Aug. 19, 1890. Twelve persons were killed instantly, or died before they could be taken from the wreck, and eleven persons have since died from injuries received, making a total of twenty-three fatal injuries. About thirty persons have reported themselves as seriously injured. With the exception of the fireman, all of those who have died were in the fourth car.

The train consisted of: the locomotive, No. 122; baggage car, No. 33; Pullman car "Puritan," No. 464; smoker, No. 246; passenger coaches, Nos. 263, 262, 107; combination car, No. 333; passenger coach, No. 326; combination car, No. 303. The first six cars in the train came from Wood's Holl. The last three cars came from the Cape division, and were added to the train at Buzzard's Bay.

The number of passengers on the train, as appears by the brakeman's count on file in the office of the passenger transportation master, was as follows: Car No. 464, 34; 246, 41; 263, 70; 262, 64; 107, 35; 333, 40; 326, 62; 303, 45; total, 391.

The conductor of the train was Frederick W. Steadman; the engineer, D. C. Babcock; the fireman, James Ryan.

From the official investigation, and from an examination of the wreck made by members of this Board shortly after the accident, the following facts appeared: —

The place where the accident happened is at the northerly end of a curve beginning a short distance north of the Quincy station. The curve is 800 feet long; the total amount of curvature is 17° 19′, or an average of 2° 10′, for the whole length. The southerly end of the curve is somewhat sharper than the average, and the northerly end near where the accident occurred is eased off to about a 1° curve for the last 100 feet. The grade of the track from a point about 200 feet north of the Quincy station up to and for a short distance beyond the place of the accident is a descending grade of 30 feet to the mile. The arrangement of the tracks and the various points referred to in this report are shown on the plan of tracks herewith. This portion of the road is through a cut with gravel banks.

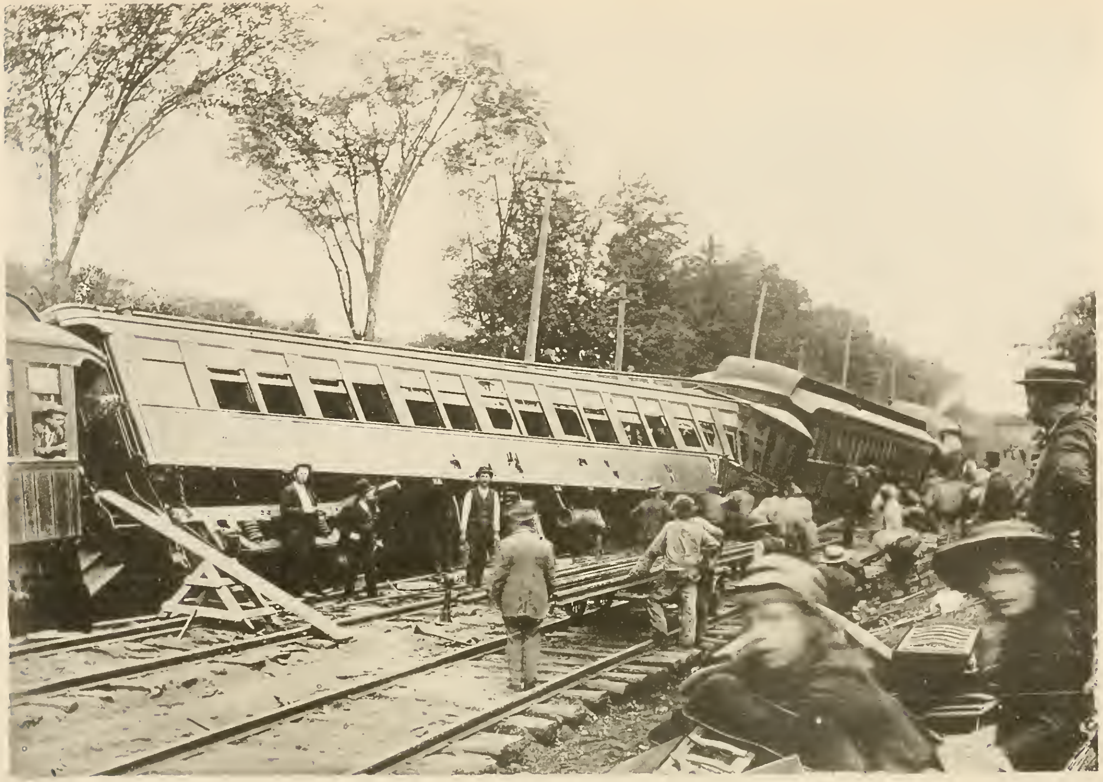
The Old Colony runs left-handed, so that the in or north bound track is the westerly track.

The train was due to pass the Quincy station at 12.56, and was about two minutes late. As was customary, the engineer had shut off steam before reaching the Quincy station, and he estimated his speed at that point as at the rate of twenty-five miles an hour.

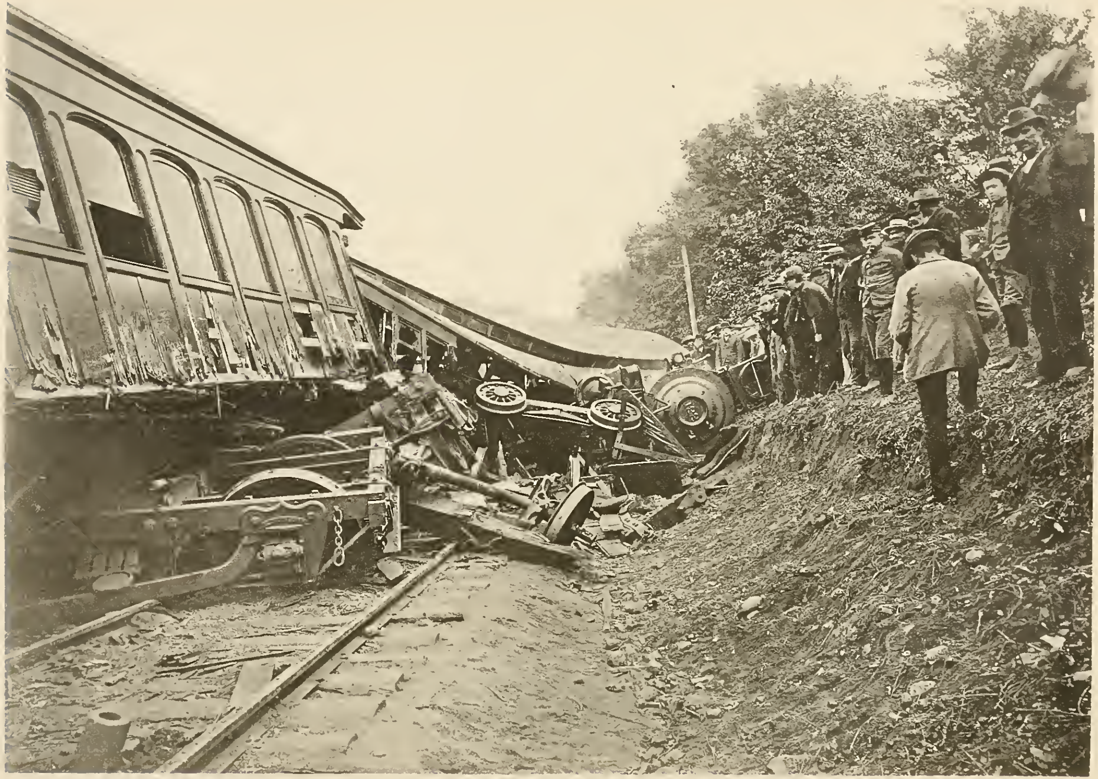
The engineer of an out-bound gravel train, consisting of thirty cars, made a motion to him as he passed, indicating that he should whistle for people on the track. The motion was not intended to convey the idea that there was absolute danger ahead, but was simply given by the engineer on the gravel train because he had seen some section men at work, and was fearful that the noise of his own train would prevent them from hearing the approach of the express. Immediately the engineer of the express saw the section men at work on the track, they being about 350 feet from him, and he gave short, sharp whistles, to warn them of his approach. There were then eight or ten men on the track. On hearing his whistles, the men quickly got off the track; but when they left the track, so that he could get a clear view of the rails, he was only 100 or 150 feet from the point where they had been working, and he then discovered a jack on the inside of the westerly rail a short distance north of the Dimmock Street overhead bridge. As has been stated, his steam had already been shut off. He applied the train brake at once, and has no clear idea of what happened from that time until he found himself on top of the boiler of the engine after the accident.

The driving-wheel brake on his engine was arranged to be operated by a separate handle, six inches below the handle for the train brake. He has no recollection of having applied the driving-wheel brake, nor of having reversed his engine. He probably did neither. To do either would have been unusual, and would have required direct intention; and, moreover, from the time when he discovered the jack to the time when the engine left the rails, could not have been more than four seconds.

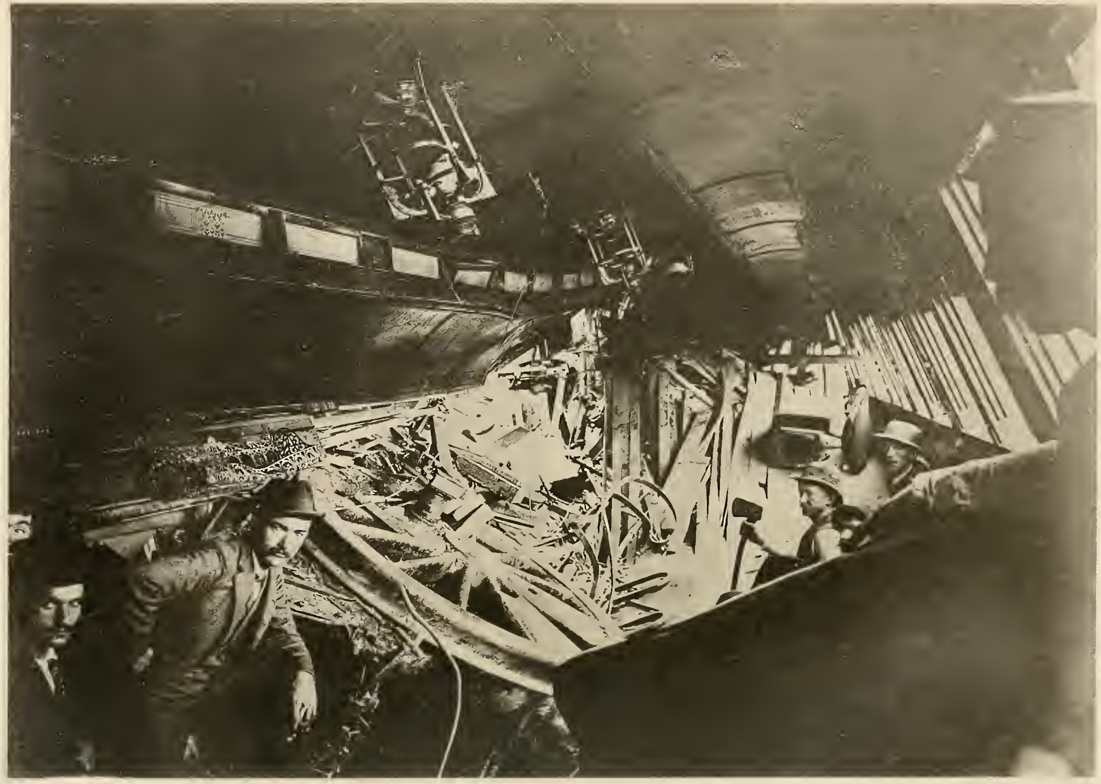
The jack was under the westerly rail, at a point ten feet south of the northerly end of the curve above described. The engine was not derailed until it reached a point 20.4 feet north of said northerly end of the curve, or 30.4 feet from the location of the jack. At the end of the curve the super-elevation of the easterly rail is 1½ inches, which elevation is gradually reduced from that point. The



View from the southeast, showing baggage car on its side, the Pullman car, the smoker, and in the foreground passenger coach No. 263.



View from the northwest, showing the smoker, passenger coach No. 263, and the engine.



Interior of passenger coach No. 263, showing how the driving-wheel of the engine tore out the side of the car.

engine jumped the track to the west; that is, towards the ditch and not towards the out-bound track. After striking the jack, the engine ran about 280 feet, and finally toppled over on its side and stopped with its front end driven into the bank and its rear end projecting over the in-bound track.

Description of the Wreck.

After the accident the tender was found on the inward or north-bound track about 200 feet beyond the engine. The tender was turned completely round, its rear end being towards Boston. Alongside the tender the baggage car was lying on its side on the out or south bound track. The trucks had been stripped from the baggage car, as well as from the tender. The front platform of the baggage car was demolished and the rear platform injured, but the framework of the body of the car was unbroken. The conductor of the train, and the baggage master, who were in the baggage car, escaped without serious injury.

The second car in the train, being the Pullman car "Puritan," was also on the out-bound track immediately behind the baggage car. It stood very nearly in line with the track. Its trucks had been torn from it, and it was tipped somewhat to the right. The inside of this car was not injured. The fixed chairs were none of them torn from their fastenings, the mirrors were not broken, and the windows were unbroken with the exception of one, through which the parlor-car conductor, B. F. Benson, was thrown head first during the accident. He escaped without dangerous injuries, and, so far as known, none of the thirty-four passengers in this car were seriously injured. The side of this car showed no evidence of having struck the locomotive as it passed. Its platforms were in good condition.

The platform of the next car, No. 246, the smoker, was jammed against the rear platform of the Pullman. This car was not in line with the track, but stood diagonally across the space between the tracks. Both its trucks had been torn from their positions, and were under its rear end. On its left side, towards its rear end, some of the panels below the windows had been scraped and ripped out. So far as known, none of the passengers in this car were seriously injured.

The fourth car in the train, No. 263, was lying across the in-bound track, tipped over on its left side, which side was torn out for two-thirds of its length by collision with the rear end of the engine. The rear driving-wheel of the engine projected into this car to about its middle line. This car was a total wreck, being fearfully twisted and torn.

The next car, No. 262, was nearly on the line of the in-bound track, but its front end was off the track to the left; that is, towards the embankment, and not towards the out-bound track. With the exception of its front platform, this car was uninjured.

The other four cars remained on the rails, and were in condition to be at once removed.

The position of the cars indicates that, when the engine stopped, having turned over on its side, its front end having been driven into the bank and its rear end projecting over the in-bound track, the thrust of the nine cars behind turned the tender around on its connection with the engine as on a pivot; and, in turning, the tender operated as a wedge to force the baggage car off the in-bound track and push it over on the out-bound track, thus causing it to pass without striking the engine. The link and pin connection between the baggage car and tender held, while the shackle and chain connection between the tender and engine broke; and the tender, having first operated as a wedge to throw the baggage car over on the out-bound track, was dragged backwards down the track.

The Pullman, coupled to the baggage car by its Miller coupling, followed closely the course of the baggage car. It was forced off the in-bound rails and carried over to the out-bound track, and it too escaped a collision with the projecting rear end of the engine. The next car, the smoker, following the Pullman, barely grazed the engine as it passed.

The influence of the tender as a wedge was gradually being lost, and, when the fourth car, No. 263, came along to the point where the engine lay, although its front end was derailed towards the out-bound track, it was not thrown over sufficiently to avoid a collision. It was driven diagonally against the engine, which, from a point a few feet back of the front left-hand corner of the car, tore out the whole side of the car to a point about fifteen feet from its rear end. When this position was reached the train came to a stop.

Injuries to Passengers.

In car No. 263 were seventy passengers, a larger number than in any other car in the train. When it struck the engine, it was moving so slowly that some of the passengers saved themselves by jumping from the left to the right side of the aisle. Those passengers on the left side of the aisle who remained in their seats were driven back behind the framework of the engine, and especially behind the great driving-wheel, and were crushed and pinned down by the debris of the cab, of the framework of the car, of the seats and of the floor. In the boiler of the engine, below the water line, at a point where a blow-off cock was situated, a break about two inches in diameter had been made, and the injector pipe, about one-half inch in diameter, had also been broken off near its connection with the boiler. Through these two openings the steam and hot water escaped in great volume. Several of the passengers who were not killed outright by the collision were fatally scalded by the escaping steam and water, which water was converted into steam immediately upon being released from pressure. Passengers who were able to move generally escaped without dangerous scalding, but those who were pinned down by wreckage were severely and in some cases fatally scalded.

From the debris behind the driving-wheel of the engine twelve corpses were taken out, including that of the fireman, who was so deeply buried that in spite of the utmost exertions his body was not extricated until three hours and a half after the accident occurred.

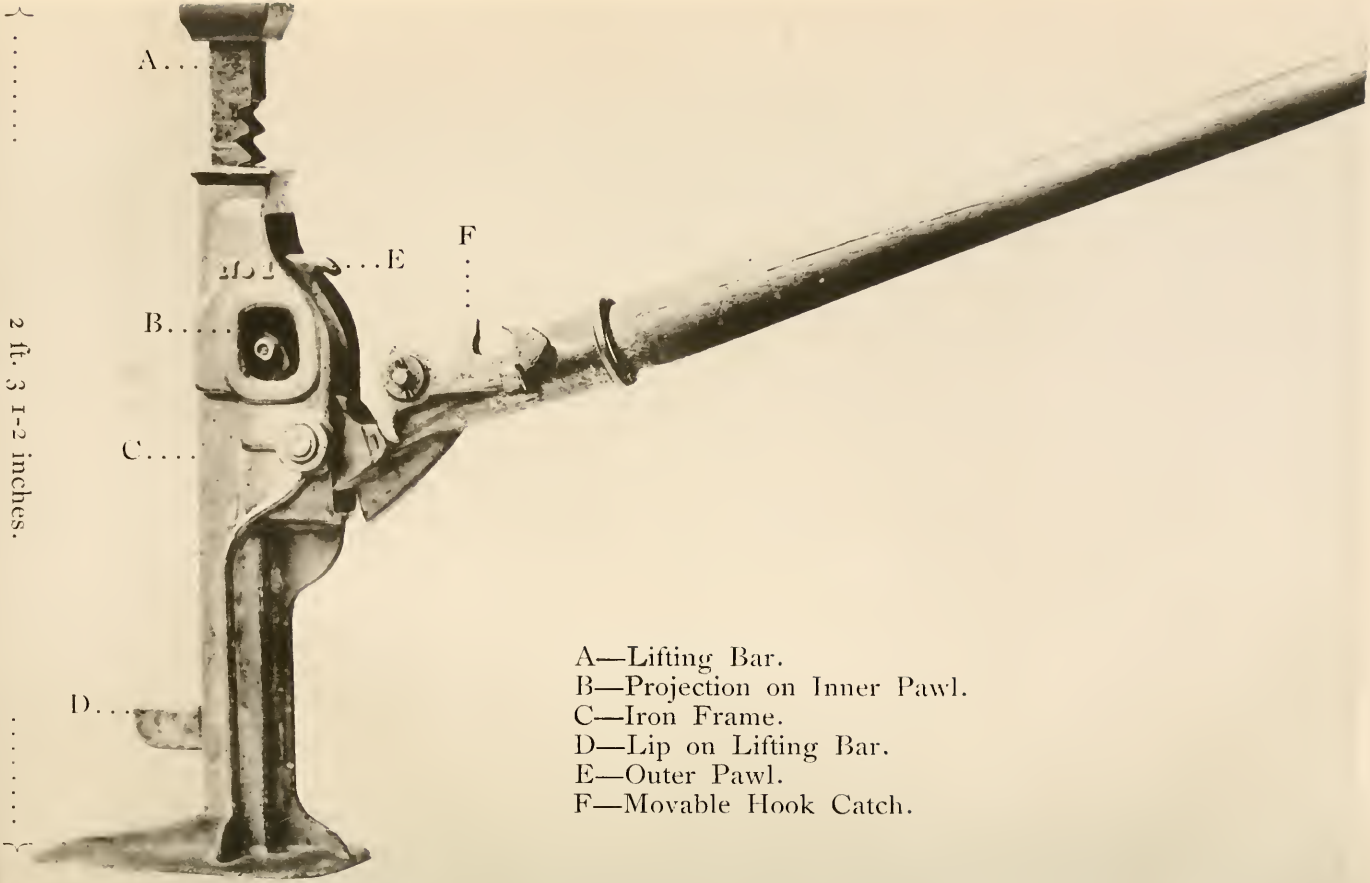
Sundry Important Facts.

When the members of the railroad commission met General Manager James R. Kendrick at the wreck shortly after the accident, they were immediately informed by him that he had learned that a jack had been left on the track, and that the accident would probably be traced to that cause. It appeared at the hearing that a gang of section hands, under Section Master Joseph F. Welch of Quincy Adams, having just begun work after their dinner hour, were engaged in surfacing the road-bed at the place of the accident; that a jack was in position, holding up a low joint while the ties were being tamped; that, on the approach of the train, the section hands got off the track; that the jack was left; that it was seen by the conductor of the express, who, being in the baggage car, happened to look ahead from the side door of the car, and saw it standing between the rails, and who immediately threw himself on the floor of the baggage car, expecting that an accident would happen; that, as has been stated, it was seen by the engineer of the express, but not until his engine was within one hundred feet of it; and that the conductor on an outbound gravel train, who was standing on the front platform of the caboose attached to the rear of said gravel train, saw the cow-catcher of the express strike the jack, he being at that time directly opposite to it.

Michael F. Hartney, the section hand who had charge of the jack, testified that he had been working the jack that morning, and had worked it previously for another section foreman, and that he knew how it should be operated; that he had no means of knowing when trains were due, and that he relied upon the section foreman to take all necessary precautions therefor; that the men began work after the dinner hour at about ten minutes of one; that one joint had been raised and tamped, and that he had then, by order of the section master, placed the jack under and had raised another joint; that the section master, standing under the bridge, had sighted the track, and indicated that the rail was sufficiently raised, and that the men had begun tamping; that he heard no order from the section master to remove the jack; that he did not know that the express was coming until he heard the whistle; that he attempted to release the jack, but was unable to do so, and was obliged to jump for his life.

The section master or foreman of the gang, Joseph F. Welch, stated that the jack was put in position by his order a minute or two before the train was due; and that, when the tamping had proceeded far enough to render it proper to remove the jack, he had so indicated in the usual manner; that, supposing Hartney heard him, and that the jack would be removed, he then began sighting the track from a point under the bridge, thus being between his men and any approaching train; that he knew at what time the express was due; that it was not customary to put out a flag for such work as he was then doing, and that he was not flagged; that the passage of the gravel train prevented him from hearing the express; that he did not discover that it was coming until he heard the tooting of the whistle; that he then shouted to his men to clear the track; and that he did not know that the jack had been left on the track until he was told so by Hartney after the accident.

From the point where he was standing, he could have seen the train at a distance of 540 feet; but the following facts lead to the conclusion that, when the whistle was sounded, the engine must have been less than 400 feet from the jack, and therefore less than 360 feet from Welch. The engineer of the express did not whistle until after he had received a cautionary signal from the engineer of the gravel train, which signal was given as the two engines approached each other. The engineer on the gravel train testified that the engineer of the express was whistling when the engines passed each other. The first whistle may have been given 50 feet before that. The conductor on the front platform of the caboose at the rear end of the gravel train was just opposite the jack when the engine struck it. The engine and thirty gravel cars made a train 466 feet long. This 466 feet, plus the 50 feet above referred to, or 516 feet in all, was therefore the sum of the distances travelled by the two trains between the time when the whistle was sounded and the time when the jack was struck. It is not probable that the express was going less than twice, nor more than three times, as fast as the gravel train. Now, if the express was going twice as fast as the gravel train, the express would have gone 344 feet out of the 516 feet, and



A—Lifting Bar.
B—Projection on Inner Pawl.
C—Iron Frame.
D—Lip on Lifting Bar.
E—Outer Pawl.
F—Movable Hook Catch.

the gravel train would have gone 172. If the express was going three times as fast as the gravel train, the express would have gone 387 feet, and the gravel train 129 feet. If the express was 387 feet from the jack when the whistle was sounded, and was going at the rate of 25 miles an hour, or 36 feet a second, Hartney had 10¾ seconds in which to release the jack and get off the track. If the express was going at the rate of 30 miles an hour, or 44 feet a second, Hartney had less than 9 seconds. If the express was going at the rate of 40 miles an hour, or 59 feet a second, Hartney had less than 7 seconds.

The work in which the men were engaged is generally known as surfacing. Frequent surfacing is necessary in order to keep tracks in smooth and safe condition. This work is regularly done in the daytime. There are fewer trains at night, but night work is attended by special dangers and disadvantages. The growth of business and the development of electric lighting may ultimately render it expedient to do surfacing on our main lines at night, but such expediency has not yet been demonstrated.

Simple surfacing does not at any time render the rails themselves unsafe for the passage of a train. The rails, where the jack had been and where the derailment occurred, were in good order after the accident.

The Barrett Jack.

The jack which was struck was a Barrett jack, No. 1. After the accident it was found in the ditch at the side of the track. One side of the base of the frame and the short movable releasing catch had been broken off, and the iron socket for the lever handle had been crushed. These Barrett jacks weigh about sixty pounds. The frame encloses a ratchet lifting bar, and stands about two feet high. The jack is worked by a lever arm, composed of an iron socket and a wooden handle about three feet long. There are two pawls, an outer and an inner pawl, — the former engaging the ratchet when the lever handle is raised, and the latter when the lever handle is pushed down, so that a motion of the handle either up or down, within certain limits, raises the bar. Near the lower end of the bar on the opposite side to the handle is a projecting lip, which is placed under the rail when track-raising is being done. Attached to the side of the socket of the handle is a short, movable iron catch, with a hook-shaped end. When this hook is placed over a projection on the side of the inner pawl and the lever handle is pushed down, both pawls are disengaged from the ratchet, and the bar falls. While the jack is being used for lifting, this movable catch rests with its hook end towards the end of the lever handle; but, when it is desired to release the jack, this movable catch is turned over so that its hook end is towards the pawls. The hook, however, will not catch over the projection on the inner pawl until the lever handle is raised to the top of its stroke. Raising the handle raises the bar, and whatever is resting on it. If the handle is at the upper end of its regular stroke, the bar and the load upon it must be further raised one-eighth of an inch. If the handle is at the lower end of its stroke, the bar and its load must be raised about seven-sixteenths of an inch. Therefore, to release the jack, the movable catch must be thrown over into position, the lever handle must be raised until the hook drops over the projection on the inner pawl, and then the handle must be pushed down. This draws the pawls away from the ratchet, the bar falls, and the jack can then easily be removed.

In the use of the jack for track repairs, the necessity of raising the load in order to hook the trip arm is objectionable. The section master in levelling cannot allow for this raising, because the amount to be allowed depends upon the position in which the handle happens to be. The practical result of this defect of the jack is that the trip catch is seldom hooked to the inner pawl, — that is, the jack is not put at full cock, as it were, — until it is desired to release it. The disadvantage of allowing the jack to remain uncocked while the tamping is being done, is that, on the approach of a train, two movements must be made in order to release it, the first movement — namely, raising the handle sufficiently to hook the trip catch — requiring the exercise of some care and also strength proportioned to the load raised.

The Barrett jack would be a much safer instrument for use on railroads, if its mechanism were so changed that the pawls could be drawn away from the rachet at any time by a single motion as simple as pushing down the handle. This might be accomplished by a lever operating independently of the lever handle, and worked perhaps by the foot.

In order to avoid raising the track after it has been properly tamped, some section hands, when they are doing work which requires the raising of the track for half an inch or less, resort to a different method of using this jack. As one of the pawls works when the handle is being raised, and the other when the handle is being depressed, one pawl is practically always free. If the outer pawl is held away from the rachet by the hand, the inner pawl will, when the handle is pushed down, raise the bar about three-fourths inch; but, when the handle is raised again, inasmuch as the outer pawl is not engaged, the bar will simply be let down to its original position. This is not a use of the jack for which it was devised, and is open to the objection that the drop of the bar is so limited that it might not give sufficient play to enable the section man to remove the jack with ease and with certainty.

When the method of releasing the jack contemplated by its mechanism is followed, and the weight resting on the jack is not too great, a man can release the jack very quickly. Four seconds may be considered as a fair average time for the operation of releasing and removing the jack from the track. A man may, however, neglect to throw the trip hook over into position, or he may fail to raise the handle sufficiently to enable the trip hook to catch over the projection on the inner pawl. Failure to do the latter may be due either to carelessness or to lack of sufficient strength.

In the present case, though the track was heavy, there is no reason to doubt that Hartney had sufficient strength to raise the lever handle. Either he did not throw the trip hook into position, or he did not raise the handle high enough to hook the inner pawl. The trip hook ought to have been thrown into position as soon as the section master notified him that the proper level had been reached. Hartney neglected to do this at that time. Had he done it then, he might not have failed to release the jack. It appeared, however, that no instructions had been given him to take this precaution. This fact lightens his responsibility for the accident, but increases that of his superiors. When he found that the train was right upon him, he became confused. Undoubtedly he attempted to release the jack, but at the hearing he could give no definite information as to what he did or why he failed.

Rules and Practice in Relation to Track Repairs.

A consideration of the evidence given at the hearing raised the following questions: —

I. What are the rules of the Old Colony governing the use of a jack in surfacing, and what has been its general practice thereunder?

II. What are the rules and what has been the practice on other roads in this and other States?

III. How far was the accident due to defects in rules; how far to erroneous instructions or established practice under the rules; and how far to the failure of employees to comply with such rules, instructions or general practice?

On the Old Colony Railroad.

The rules of the Old Colony Railroad Company applicable to the duties of track section masters are Nos. 665 to 670, inclusive, and the rules which specially throw light upon the present case are the following: —

> No. 666. No notice of an extra train is to be expected by road repairers. When repairs are to be made which will interfere with the safe passage of a train that may approach unexpectedly, they will make them only when a double-staff red flag or red light is plainly exhibited on the track at least half a mile back, or, if on both grade and curve, more than half a mile, as the circumstances may require for safety, or in each direction from the repairs if on single track, to notify any approaching train. If in any case there should be a curve in the road so the flag cannot be seen by the trackmen to be in its proper position during the whole time they are obstructing the track, there must be a man stationed with the flag the required distance, and he will remain there until he is informed the track is all right for the passage of trains. Section men must expect, and be on the watch for, extra trains *at all times.*
>
> No. 669. They must know the time when all trains on the time-table are due, and keep the track clear for them, and must be on the lookout for signals which announce sections of trains, guarding the track till all such trains have passed; and one man must be on duty during dinner hour.

These rules conform to those embodied in a code adopted by the General Time Convention in 1887. This Board, in its report for the current year, urged the various railroads in the State to adopt the Time Convention's code as the basis of their operating rules. The following is a quotation from pages 35 and 36 of said report: —

> Lack of uniformity on different roads in rules governing the train service is a definite source of danger, which has long been recognized by railroad men; and in 1887 a code of rules was adopted by the General Time Convention, a body at that time comprising a membership of one hundred and sixty-four railroad companies, represented usually by their general manager or their general superintendent. This code was prepared with great care, and was discussed and perfected by the combined experience of many experts. The object of the code was to secure uniformity, a correct and pointed expression, and the best practice. Some of our roads have adopted this code as the basis of their rules, while others neglect to do so.

The Old Colony Railroad adopted the Time Convention's code in June, 1889.

A careful inquiry into the practice on the Old Colony under the foregoing rules gives the following results: —

It is considered that surfacing, including the raising of low joints, provided the rails themselves are at all times safe for the passage of trains, does not, within the meaning of Rule 666, "interfere with the safe passage of a train." The tools generally used in surfacing are shovels, tamping bars and iron crow-bars. For such work a flag is not put out; nor do the section men stop work on such repairs as soon as a train is due, but they work until the train actually arrives. In fact, they work until the train gets within such distance from them that it is necessary for them to leave the track for their own safety.

When the track is unusually heavy by reason of crossovers or sidings, and their concomitants of frogs and switches, it becomes necessary to use something more powerful than an ordinary crow-bar to raise a low joint. Formerly the lever bar was used for this purpose. The lever bar is a cumbrous wooden instrument, about ten feet in length. The end which goes under the track is shod and faced with iron, and the bar weighs about fifty pounds. To raise track with this bar requires the services of several men, the number depending upon the load. As one man can readily remove this bar from the track at any time, section masters, when using it for simple surfacing, have not considered it as an obstruction requiring flagging. So far as known, no accident on the Old Colony ever resulted from this use of the lever bar.

Of late years, track-jacks of various designs have taken the place of the lever bar. With the track-jack one man can raise a load as great as four or six men could raise with the lever bar, and he can raise it with greater steadiness and precision. The Barrett jack probably weighs more than the average lever bar, but it is more compact.

At the time of the accident, the Old Colony Railroad Company owned a dozen or fifteen Barrett jacks. They were not in use for ordinary track repairs; many of the section foremen were not supplied with them. Section Foreman Welch did not have one as part of his regular outfit. The jack which caused the accident was borrowed from the foreman of the floating gang at work near by, because, on account of the crossover, shown on the plan, the track at the point where Welch was surfacing was unusually heavy.

On the Old Colony the jack has not been considered as a more dangerous instrument than the lever bar; on the contrary, it has been considered as less dangerous.

Mr. Welch's immediate superior officer is Emory H. Bryant, the road master. His superior, so far as the questions raised by this accident are concerned, is the superintendent of the central division, J. H. French. Next above him is the general manager, James R. Kendrick. At an interview at which these officers were present, they agreed that, with the light which they had prior to the accident, they would have considered it proper for a section master, having a clear view of the track, to use a jack for surfacing after a train was due, without putting out a flag. They also agreed that, if a train had not been due, there was nothing in the rules or practice requiring a section master to put out a flag when using a jack for surfacing in such a position as Welch occupied at the time of the accident. They differed, however, in their answers to the following question: "In the position in which Welch's gang was then at work, Welch being able to see 540 feet, and being between the jack and any approaching train and 40 feet from the jack, a train being due, was Welch acting contrary to rules, instructions or any established practice, in using a jack without being flagged and without a lookout or other special precaution?" Mr. Bryant, the road master, said that, as the jack could be released and removed at any time, it was not regarded as constituting an obstruction; and that, in doing simple surfacing, he should not have considered it necessary at such a curve to put out flags, or to stop work because a train was due. He further stated that he did not remember any other case where a track-jack had been used for surfacing in the immediate vicinity of a curve similar to this, because jacks are only used by section men where the track is peculiarly heavy by reason of crossovers or sidings, and crossovers and sidings on or near curves are avoided as far as possible. It seems, therefore, that, if the road master had seen Mr. Welch using the jack at the place of the accident without being flagged, without a lookout and after a train was due, he would not have made objection.

Mr. Bryant is about fifty years of age. He began railroad work on the Grand Trunk Railroad, where he spent two and a half years. He then went to the Boston & Worcester Railroad, and served seven years there as trackman, brakeman and freight conductor. Next he went to the Boston, Clinton & Fitchburg Railroad, and was with that road until it was merged with the Old Colony Railroad, when he was taken into the employ of the Old Colony, and has remained with it ever since. While with the Boston, Clinton & Fitchburg Railroad he had charge of the construction work of the Framingham & Lowell and the Mansfield & Framingham roads; and he was in charge of track repairs on the southern division of the Boston, Clinton & Fitchburg when it was merged with the Old Colony. Since he entered into the service of the Old Colony he has built the extension at New Bedford and the Whittenton Branch, and also has done the double-tracking between Mansfield and Middleborough & Taunton Junction (through Taunton), and between New Bedford and Acushnet, and also that just completed from East Weymouth to the Old Colony House. On the first of March of the present year he took charge of the division embracing the locality where the accident happened. He has a high reputation for faithfulness, intelligence and experience.

The position taken by Messrs. Kendrick and French was, that to allow the track-jack to remain in position under the rail after the express was due, where the view was limited by a curve as in this case, was inconsistent with Rule 669, which requires that section men must know the time when all the trains on the time-table are due, and keep the track clear for them.

On Other Roads in This State.

On the 28th of August a circular letter of inquiry as to their rules and practice in relation to track repairs was sent to the managers of the leading operating roads in this State, and to some of the great lines of railroad in other States.

Answers to this circular letter have been received from the following roads in this State; namely, the Boston & Albany, Boston & Maine, Boston, Revere Beach & Lynn, Cheshire, Connecticut River, Fitchburg, New York, New Haven & Hartford, New London Northern, New York & New England. The last of these responses was received on the 16th of October.

The answers received from the above-named nine roads in Massachusetts may be summarized as follows: —

No serious accident from the use of a jack or lever bar has ever before happened in Massachusetts, so far as the knowledge of the present managers goes.

No one of these nine companies has any printed rule specially relating to the use of a track-jack, nor in any case are the rules, so far as they relate to the question under consideration, more definite, more strict or in better form than those of the Old Colony.

Four roads report that they do not use track-jacks for surfacing or raising low joints.

One road reports that it does not use the Barrett jack, but its answer implies that it uses other jacks. So far as its practice is concerned, it refers only to its rules, which are not materially different from those of the Old Colony Railroad.

On the four other roads the Barrett jack is used more or less in surfacing. One of these, for answer to the question as to its practice in the use of jacks, refers only to the rule that the track must not be obstructed without flagging. No definite statement is made as to whether its section masters have or have not considered the use of a jack as constituting an obstruction. Since this accident happened, the manager of this road has issued orders to his trackmen, whenever they use a jack of any kind, to set it upon the outside of the rail. Whether, when it is so used, it is to be considered as an obstruction requiring flagging, is not stated.

On two other roads using the Barrett jack a flagman would not, under ordinary circumstances, have been sent out when the jack was being used simply for raising a low joint.

The remaining company reports that every section master has been verbally instructed to use the Barrett jack on the outside of the rails, and that, when so used, it is not considered an obstruction.

The fact seems to be that, up to the time of this accident, the use of the Barrett jack or any similar jack for raising a low joint was not under ordinary circumstances considered as an obstruction requiring the use of a flag. The responses, however, indicate that a flag would have been required where the view was obstructed. They do not plainly state that such has been the definite and well-recognized practice.

On Roads in Other States.

The Board hereby expresses its appreciative acknowledgments for carefully prepared and instructive responses to its circular letter of inquiry, received from the Baltimore & Ohio, Canadian Pacific, Chicago, Burlington & Quincy, Chicago, Rock Island & Pacific, Grand Trunk, Lake Shore & Michigan Southern, Lehigh Valley, Michigan Central, New York Central & Hudson River, Pennsylvania (lines west of Pittsburg), and the Union Pacific railroad companies.

The managers of these eleven great lines of railroad report that within their knowledge, on their lines, no accident has been caused by a lever bar being left on the track, and that only four accidents have resulted from the use of a jack. In two cases the jack was between the rails. In one of these the engine was derailed, but in neither case was any serious injury done. In the other two cases the jack was on the outside of the rail. In neither of these cases was any injury done except the breaking of the jack.

No one of these eleven companies has any printed rule specially relating to the use of a track jack. They all have rules that the track must not be obstructed without flagging; but, so far as the question now under consideration is concerned, their rules do not appear to be more definite or to be better expressed than those of the Old Colony.

For answer to the question as to what their practice has been in the use of the jack, four companies refer simply to the rule not to obstruct the track without flagging. The intimation of their answers undoubtedly is that they consider the use of a track jack as constituting an obstruction; but lack of a definiteness leads to a doubt as to their actual practice.

One company, which uses the Barrett jack, and considers it as good as any in the market, states that, in addition to its rule not to obstruct the track without flagging, it has issued positive instructions to its men in all cases to use the jack on the outside of the rail whenever possible, and under no circumstances to place the jack on the inside of the rail without flagging. When the jack is used on the outside of the rail no flag is required.

The chief engineer of another company reports that the Barrett jack is not used on his road, and that he does not use any jack for simply raising a low joint. He further states that he does not see the need of a flag if the Jenne jack were to be used for surfacing, unless it was at a sharp curve.

Another company, which uses the Barrett jack, reports that its section men would not be expected to put out a flag when using a jack simply to raise a low joint, unless it was on a curve or in a fog.

The remaining four companies report that they use jacks, and that they do not consider flagging necessary when a jack is being used simply for raising a low joint. Two out of these four companies have issued instructions to use the jack on the outside of the rail where practicable to do so.

From the responses, therefore, of the roads out of this State as well as from those within the State, it appears that the use of a jack for raising a low joint under ordinary circumstances has not been generally considered as an obstruction requiring the use of a flag; and it also appears that the extraordinary circumstances, under which a flag would be required, have not been well defined by rule or in practice.

The Section Master.

The immediate responsibility for this terrible accident rests upon Joseph F. Welch, the section master. In condemning him, however, it must be remembered that, on a straight piece of track, he would have been justified by the general practice on the Old Colony and on other roads in using the jack as he did, even after the express was due. His fault was not disobedience of a plain rule, but a failure to realize the peculiar danger of his position. He did not appreciate that the curve made the jack far more dangerous than usual. He did not stop to think that he could only see 540 feet, and that an express train, going at the rate of 30 miles an hour, would cover that distance in twelve seconds. With the horrible results before us, his course seems strangely reckless; and yet Roadmaster Bryant, his immediate superior, says that before this accident he should have considered it safe and permissible to use the jack, in the place where Welch used it, after a train was due, without flagging. Welch's most inexcusable neglect was his failure to keep such an outlook as would insure his seeing the train the instant it came in sight. He was not aware of the approach of the train until the whistle was sounded. As has been shown elsewhere, the train was then within 400 feet from the jack, or within 360 feet from him, so that after it came in sight it had advanced 180 feet before he knew of its approach.

On the Boston, Clinton & Fitchburg, the New York & New England, and the Old Colony, he has had twenty years' experience as section master. Up to the time of this accident he had a record of good and honest service, free from responsibility for accidents. His fault was not drunkenness or laziness. He was at work. He was trying to accomplish as much work as possible; but, in attending to a part of his work which should have been postponed, he neglected an immediate and vital duty.

Recommendations as to the Use of Track Jacks.

In the light of this accident, it is clear that more definite and stringent regulations must be adopted with reference to the use of the track jack.

Some managers of experience claim that the jack should be used on the outside of the rails when practicable, and that, when used in that position for simple surfacing, no flag should be required, but that flags should always be used as for an obstruction when the jack is used between the rails. We cannot agree to the proposition that a flag is not needed when a jack is used on the outside of the rail. In the responses to our circular two cases were referred to in which a jack on the outside of the rail was struck by a passing train, and in each case the jack was broken without derailing or materially injuring the train. Such escapes, however, by no means justify the conclusion that a jack on the outside of the rail is not a dangerous obstruction. The engine cannot pass it without striking it, and to strike such an object even with the cow-catcher is unwarrantably dangerous.

The objection to using the jack on the outside of the rail, on the ground that the tamping of the ends of the ties cannot then be done to so good advantage as when the jack is between the rails, we do not regard as serious; but it would be objectionable to place the jack on the outside of the rail, where the slope of the bank was such that the man operating the handle could not get a suitable foothold or stand in a suitable position to operate it effectively. Then, too, on our double-track roads, there is not sufficient room to operate a track-jack with safety on the outside of the rail and between tracks. The handle of the jack extends four feet from the rail; the overhang of a car is two feet and a half. With seven feet between the tracks, this would leave only half a foot between the end of the handle of the jack and the side of a car on the opposite track. This allowance is much too small. It is clear that the man in charge of the jack ought never to leave it while it is in position under the rail. He must be at all times prepared to release it. Suppose a train is passing on the opposite track. The man in charge of the jack must stand by it between the tracks, ready to release it at any time, and he must be on the constant lookout for a train on his own track. He cannot safely leave the jack, because a train on his track may come along before the train on the other track has passed. He might remove the jack not only for every train on his own track but for every train on the opposite track; but such a course would require a double outlook, and would make the jack practically useless.

It seems that to use the jack on the outside of the rail between tracks would increase rather than diminish the chance of its being struck.

This accident also calls attention to another practice of section hands, which we are satisfied is bad and dangerous. Upon the approach of a train it is their custom to continue work as long as they can with safety to themselves, and then leave the track, taking their tools with them. Not until an engineer is within one or two hundred feet of the place where they have been working does he get an unobstructed view of the rails. Section hands ought not to remain at work until the last moment. While we do not claim that section hands should not work after a train is due, they nevertheless ought to get off the track when the train is at such distance from them that the engineer shall have ample time to stop after he sees whether the rails are clear, or not. Under our present system, an engineer approaching section men at work cannot be sure that they all know of his approach. A tamping bar or a shovel might derail a train if left on the rails. A man hurrying off the track at the last minute may trip, and, with his tamping bar or shovel in his hand, fall across the rail under the wheels of the engine.

The conclusions reached are as follows: —

First. A track-jack should not be used either on the inside or the outside of the rail, nor should a lever bar or other similarly cumbrous instrument be used between the rails, unless such jack, bar or instrument is protected as required when the track is obstructed.

Second. When repairs are being made which do not interfere with the safe passage of trains, the track should be clear of men and tools before an approaching train gets within a quarter of a mile of the point where the work is being done. On the approach of a train the section master should not only cause his men to leave the track as above, but, before he leaves the track himself, he should be satisfied that the track is free from tools, and otherwise safe. If for any cause the view is permanently or occasionally obstructed, the section master should take extra precautions to enable him to comply with the foregoing requirements; and, if the situation is such that he can not or may not be able to ensure such compliance, then cautionary signals should be plainly exhibited on the track at such distance, not less than a quarter of a mile, as to give timely warning to approaching trains, — in both directions if on single track, — and should be kept there until recalled by order of the section master. In getting off the tracks, section men should, so far as possible, avoid crossing or standing on other tracks.

Third. Tools, pieces of iron, of wood or of other material used for track, signal, interlocking, bridge, carpenter or other work, should not be brought on the track or allowed to remain there except when needed for immediate use. Tools should not be dropped or laid between the rails.

Brake Power.

The cars ran about 540 feet after the engine struck the jack. The engineer testified, and there is reason to believe, that he applied the brakes to the train at least 100 feet from the jack. If such was the case, the cars ran 640 feet after the brakes were applied, in spite of the fact that the engine ran 250 feet on the ties and was then embedded in the bank, and that, in addition to the brake power thus exerted, five cars and the tender were also derailed and ran over the ties for varying distances, the resistance being so great that their trucks were torn off. The baggage car ran at least 250 feet after derailment, and the cars behind it less distances.

It is impossible to say whether the cars would have followed the same lines if their momentum at the time of the accident had been less than it actually was, or if the brake power had been greater or in any way changed; but it is an impressive consideration, that, if the train had been brought to a stand-still when the front end of car No. 263 reached the engine, and if the other cars had taken the course which they did take, — or, in other words, had the train not gone the last 45 feet, — none of the passengers would have been killed, or even seriously injured.

In matters affecting the safety of railroad travel, time and space are factors of the greatest importance. A speed of 30 miles an hour means 44 feet a second. Seldom has the importance of having a train supplied with the best and most efficient brakes been more terribly or more forcibly illustrated. If the brake power on this train could have been increased so that the train could have been stopped 45 feet short of the place where it did stop, this accident might have been freed from all its horrors. As a proper time to enforce repeated recommendations made to our railroad companies to spare no expense in equipping their cars and engines with the best and the fullest braking power, the Board has secured from Prof. George F. Swain, the bridge engineer for the Board, a paper relating to brakes, which is hereto annexed, and it is commended to the attention of the companies.

Brake power should be applied to every wheel in a train, except the wheels on the truck of the engine. It should act as nearly instantaneously as is consistent with that simplicity which every-day use requires. The leverage should be readjusted from time to time, so as to secure the greatest practicable efficiency; and the whole apparatus should, by constant, expert care, be kept in perfect order.

The train of the Old Colony Railroad is known to have fallen short of an easily attainable standard in three elements: —

First. The driving-wheel brakes on the engine were arranged to be operated by a different handle from that which operated the brake on the train. From the evidence, it seems probable that the engineer failed to apply the driving-wheel brakes. There is no doubt that he applied the brakes to the train before he struck the jack; and, if the same movement had also applied the brakes to the driving wheels, it is clear that the train would not have gone as far as it did.

The weight on the drivers was not far from 50,000 pounds, the total weight of the train about 600,000 pounds; so that a loss of 8 per cent. of the available brake power resulted from the failure to apply the driving-wheel brake, which failure was due to the fact that the driving-wheel brake and the train brake were arranged to operate separately. The engine went 280 feet after striking the jack. It probably went 380 feet after the train brake was applied. Other things being equal, an increase of 8 per cent. in brake power while the train was going 380 feet would have resulted in shortening the stop 28 feet. The best practice is to unite the train brake and the driver brake in one system. The argument in favor of uniting them has been that, if the driving-wheel brake is operated by a separate handle, unused in ordinary stops, it may not be applied in an emergency, either because the apparatus is out of order, or the engineer does not have time, or in the excitement of the moment does not think. That the argument is well founded is confirmed by the circumstances of this accident.

Second. On the six-wheel trucks of the Pullman car only four wheels were provided with brakes; therefore, on that car one-third of its braking power was not utilized. The Pullman weighed about 80,000 pounds, or about 13 per cent. of the whole weight of the train. One-third of the weight of the Pullman, or 26,000 pounds, being between 3 and 4 per cent. of the whole weight of the train, was destitute of brakes. If the Pullman car had been fitted with brakes on all its wheels, the train would not have gone as far as it did.

Third. Only three cars in the train, namely, the Pullman, and Nos. 333 and 326, — the second, the seventh and the eighth cars, — were fitted with the latest form of quick-acting brake. Had they all been fitted with such latest form, which has now been in use for several years, and is amply approved by use, the brakes would have been applied more quickly than they were. Though the saving in time in the application of brakes on an ordinary passenger train under the quick-acting system is small, nevertheless it is appreciable, and the result must be a quicker stop. The accidental distribution of the cars fitted with the quick-acting form was such that the application of the brakes was undoubtedly quicker than if none of the cars had been so fitted; but it is probable that, if the whole train had been fitted with the quick-acting form of brake, the average saving of time in the application of the brakes would have been at least one second. On the forward cars it would not have been so much. On the rear cars it would probably have been more. A train going at the rate of 30 miles an hour runs in one second 44 feet.

It is clear that, had all the cars been fitted with the quick-acting brake, had all the wheels of the Pullman car been fitted with brakes, and had a single handle operated both the train brake and driving-wheel brakes, the train would have been brought to a stop more quickly than it was, and it is possible, if not probable, that all loss of life would have been avoided.

A passenger train equipped with the fullest brake power, in good order and well adjusted, going at the rate of 30 miles an hour on a down grade of 30 feet to a mile, with the rails dry as they were at the time of the accident, should have been stopped within 300 feet. At 40 miles an hour a train fully equipped as above should have been stopped within 550 feet. After the time when the brakes were probably applied, the engine ran 380 feet, the cars 640 feet. The engineer's estimate of his speed was 25 miles an hour.

Since the accident the Board has sent to the various companies in the State a circular asking information in regard to the present condition of the brake power on their equipment; and a summary of the answers is as follows: —

	B. & A.	B. & M.	B., R. B. & L.	Cheshire.	Conn. R.R.	Fitchburg.	N. Y., N. H. & H.	N. L. N.	N. Y. & N. E.	O. C.	N. Y., P. & B.	Totals.
Number of passenger engines,	81	244	12	7	15	93	108	11	74	138	23	806
with driver brakes,	26	3	0	1	6	6	52	0	74	53	4	225
with driver and train brakes operated by one handle,	20	3	0	0	0	0	49	0	51	29	0	152
Number of freight engines,	129	112	0	27	18	64	66	11	77	49	20	573
with driver brakes,	85	0	0	0	9	63	10	2	73	31	5	278
with driver and train brakes operated by one handle,	20	0	0	0	0	0	10	0	52	3	0	85
Number of passenger cars,	326	819	54	28	64	212	583	25	260	588	71	3,030
with train brake,	326	819	54	28	64	212	583	25	260	588	71	3,030
with quick-acting brake,	244	0	0	0	12	0	87	0	60	91	10	504
Number of freight cars,	6,353	8,370	6	493	552	5,569	3,885	316	4,522	3,173	1,844	35,083
with train brake,	151	0	0	0	0	600	128	0	64	188	4	1,135
with quick-acting brake,	145	0	0	0	0	600	100	0	63	157	4	1,069
Number of pass. cars with six-wheeled trucks,	15	10	0	–	13	27	17	0	0	24	0	106
Number of such cars with quick-acting brake,	6	0	0	0	0	0	5	0	0	11	0	22
Number of same cars with brakes on all wheels,	6	0	0	0	0	0	0	0	0	0	0	6

NOTE. — The Housatonic has failed to respond.

It appears from the foregoing table, that, of 806 passenger engines belonging to the roads making reports, only 225, or 28 per cent. of the whole, are fitted with driver brakes; and that, of these latter, only on 152, or 19 per cent. of the whole, are the driver and the train brakes operated by one handle. The corresponding percentages on the Old Colony are 38 and 21. The New York & New England Railroad is the only road reporting that all its passenger engines are fitted with driving-wheel brakes; and, on 51 of its 74 engines so fitted, the driver and train brakes are operated by the same handle.

The whole number of freight engines is 573, of which only 278, or 49 per cent., are fitted with driving-wheel brakes; and on only 85, or 15 per cent. of the whole number, are the driver and train brakes operated by a single handle. The corresponding percentages on the Old Colony are 63 and 6. The New York & New England road again makes the best showing, its percentages being 95 and 68 respectively.

All the passenger cars throughout the State are fitted with train-brake apparatus; but, of the whole number, — namely, 3,030, — only 504, or 17 per cent., are fitted with the latest form of quick-acting brake. The Boston & Albany Railroad takes the lead of the other railroads in this respect, 244 out of 326 passenger cars being so fitted. The Old Colony stands third in rank, 15 per cent. of its cars being so fitted.

Of the total number of freight cars owned by the railroads in this State, — namely, 35,083, — only 1,135, or a little more than 3 per cent., are fitted with train-brake apparatus; and all but 66 of the cars so fitted have the latest form of quick-acting brake. On the Old Colony 6 per cent. of its freight cars are equipped with the train brake. In the matter of brake equipment for freight trains the Old Colony stands second in rank. The Fitchburg Railroad stands first, having 10 per cent. of its freight cars equipped with train brakes.

The total number of cars with six-wheel trucks in regular use on the roads in this State is 106; of which 22 only, or 20 per cent. of the whole, are equipped with the quick-acting brake. The Boston & Albany Railroad is the only railroad running cars with six-wheel trucks with every wheel supplied with a brake, and only 6 of its 15 cars are so equipped.

The table indicates that the wrecked train had better brake equipment than the average of the trains on the Old Colony, and it also shows that this road has better brake equipment than the average of the roads in the State. To be better than the average is not in this case sufficient.

The condition of affairs shown by the table is not what it should be.

In the last annual report of the Board (pages 38 to 41, and Appendix K) the subject of the deficiencies in brake power on our passenger trains was discussed, and attention was particularly called to the importance of driving-wheel brakes and of brakes on all the wheels of six-wheeled trucks.

This accident was not necessary to prove that, by the saving of a second of time or a few feet in space, loss of life could often be averted; but, in the light of this accident, railroad companies will be more culpable than they have been in the past, if they do not with the utmost expedition avail themselves of that control of their trains which is within their power. A majority of the roads in this State have been more negligent than the Old Colony. Their trial is not yet. No road can afford to allow the warning given by this accident to pass unheeded.

The circumstances attending this accident emphasize in another way the growing importance of the most perfect brake apparatus attainable. A gravel train of thirty cars on the out-bound track was passing the express at the time of the accident. The conductor on the rear car of the gravel train was just opposite the jack when the engine of the express struck it. Had this gravel train been a little later than it was, or had the passenger train been more nearly on time, the gravel train would have dashed into the wreck.

On our main lines trains frequently follow each other as closely as the block system will permit. When such is the case, supposing the trains to be moving at the same rate of speed, each train on a double-track road would meet two trains while running through a block. In other words, if the blocks were two miles long, and if the trains were going at the rate of twenty miles an hour, a train might pass every three minutes. If the trains were going forty miles an hour, a train might pass every minute and a half. The wonder is that double wrecks occur so seldom.

Every addition to the number of passenger and freight trains, every increase in the number of tracks, increases the chances that such accidents will happen. The poorer the brake equipment, the worse will be the accident.

The public is entitled to the nearest attainable approach to perfection in road-bed, in equipment and in safety appliances, and the road that falls short of that standard has failed in doing its duty.

GEORGE G. CROCKER,
EDWARD W. KINSLEY,
EVERETT A. STEVENS,
Board of Railroad Commissioners.

BOSTON, NOV. 8, 1890.

SPECIAL REPORT RELATING TO BRAKES.

BY PROF. GEORGE F. SWAIN.

BOSTON, Sept. 17, 1890.

The Massachusetts Board of Railroad Commissioners,
HON. GEORGE G. CROCKER, *Chairman.*

GENTLEMEN: — I beg leave to make the following report to you regarding the matter of brakes for railroad trains. There is no safety appliance connected with railroads which is of more importance than a good brake, and it will be instructive to trace briefly the development and improvement which have taken place within the past twenty years in brakes for passenger and freight trains. There is scarcely an accident on a railroad in which it is not a matter of importance to bring the train to a standstill as quickly as possible, or in which the effects of such accident might not be rendered less disastrous if the train could be stopped more quickly. Indeed, it is difficult to conceive of a situation in which the saving of a few seconds, or even of a fraction of a second, of time, or of a few feet of distance, would be of as much importance as in the case of a railroad accident. The speed of our passenger trains is frequently sixty miles an hour, corresponding to eighty-eight feet a second. The loss of a second of time, therefore, means that the train will go eighty-eight feet farther. If another train is approaching at a speed of sixty miles an hour, on the same track, a loss of a second for each train means a distance of one hundred and seventy-six feet. In cases in which it would be impossible, even with a perfect brake, to prevent an accident, the consequences would in almost every case be rendered less serious in proportion as the brake could succeed in reducing the speed.

While railroad men recognize to a certain extent the importance of brakes, they do not in many cases appreciate their full value. This is shown by the fact that on many railroads, even in this State, the engines are not provided with driving-wheel brakes. That is to say, the wheels which carry the greatest load in the train, and which could exert the greatest retarding force, are not utilized for that purpose, unless the engineer resorts to the uncertain expedient of reversing his engine. When an engineer free from excitement reverses his engine with care and with skill, he may get good results; but when danger is imminent, the attempt to reverse often disables the engine, and may do harm instead of good. Again, the heavy parlor and sleeping cars have trucks with six wheels. Of these, only four wheels are generally provided with brake shoes; and it is only within about two years that any railroads in the country have attempted to apply brakes to all six wheels of trucks of this kind. That is to say, these cars are knowingly provided with only two-thirds of the braking power which they are capable of receiving.

Until a little over twenty years ago, the brakes in use on trains in this country were simply hand brakes. In England the condition of affairs was still worse, and on passenger trains up to the year 1872 and even later there were generally only brakes on the wheels of the tender and the brake van. Sometimes, even, there was no brake van, while on the other hand, on some of the Metropolitan lines, every car was provided with brakes. About the year 1869 the Westinghouse continuous brake passed out of the experimental stage; but it was not brought to the attention of railroad managers in England until 1872, although it had previously been used for several years on railroads in this country. The first form of this brake was what is known as the straight air brake. It was at once introduced on the Pennsylvania Railroad, and on other roads in this country, and consisted of two lines of pipe running from a compressed air reservoir on the engine back through the train, and connected on each car with the brake cylinder. In ordinary running, the pipe was filled with air at the atmospheric pressure, and the brakes were applied by the engineer opening a valve and allowing the compressed air to flow through this pipe from the reservoir on the engine into the brake cylinders. It was necessary, therefore, for the application of the brakes on any car, that the entire volume of compressed air for the brake cylinder should flow from the engine through the train pipe to that car; and for the release of the brakes that it should flow back again through the same distance and out through the valve on the engine. It appears that the train pipe was at first one-half inch in diameter, but was soon made three-quarters, which, until three years ago, has been the standard size. The time necessary for the application of the brakes operated in this way was considerable, and increased rapidly with the length of the train, since the volume of compressed air to be transmitted, as well as the distance it had to flow, both increased in proportion to the length of the train. It is obvious that the brakes were applied on the front cars some time before they were applied on the rear car, especially on long trains. The double line of pipe was simply for the purpose of having a reserve in case one line should be broken. This brake was not automatic, and would not go on if a train broke in two.

There are no very accurate records of experiments on this old straight air brake. It appears, however, that in September, 1869, on the Pennsylvania Railroad, a train of six cars, at thirty miles an hour, was stopped in four hundred and twenty feet on a down grade of ninety-six feet per mile, corresponding to a distance of about three hundred and forty feet on a level. In 1872, on the Caledonian Railway, a train of twelve cars and two vans, in which about four-fifths of the train weight was braked, showed some stops as follows: —

		Corresponding Distance Corrected for Grade and for Proportion of Unbraked Weight.
At 50 miles an hour, on a level, in	792 feet,	640 feet.
40 miles an hour, up grade 0.25 per cent., . .	564 "	470 "
58 miles an hour, down grade 0.5 per cent., .	828 "	650 "
50 miles an hour, down grade 0.77 per cent., .	804 "	610 "
60 miles an hour, up grade 1.47 per cent., . .	924 "	840 "

In 1872, on the London & Northwestern Railway, a train of six cars, in which about two-thirds of the entire train weight was braked, showed stops as follows: —

		Corrected for Grade and Unbraked Weight.
At 50 miles an hour, on a level, ...	900 feet,	610 feet.
50 miles an hour, on a level, ...	780 "	530 "
52 miles an hour, down grade of 0.58 per cent.,	1,050 "	670 "
62 miles an hour, down grade of 0.4 per cent.,	1,320 "	870 "

On the Southeastern Railway, in 1872, a train of six cars, every wheel being braked, showed stops as follows: —

		Corrected for Grade.
At 60 miles an hour, tolerably level, . . .	1,200 feet,	1,200 feet.
30 miles an hour, up grade 0.83 per cent., .	321 "	350 "
30 miles an hour, up grade 0.7 per cent., .	447 "	500 "

None of these experiments were made with care, and the results are no doubt far from exact. Some of the stops given appear shorter than some that will be given for automatic brakes; but it must be remembered that experiments on the length of stop, made under different conditions as to weather, brake-shoe pressure, etc., cannot be fairly compared.

On the Midland Railway, in 1874, the following tests were of some interest: An ordinary station stop, the steam being first shut off, was made in 761 feet from a speed of 45 miles an hour, on an up grade of 0.62 per cent. A stop with the hand brakes applied on the tender and guard vans, steam being shut off, was made in 2,640 feet from a speed of 45 miles an hour, on an up grade of 0.58 per cent., the rails in both cases being in about the same condition. These tests show the great improvement which the continuous brake effected over the old hand brake.

As to the time required to apply this straight air brake on the rear car on a long train, Mr. H. H. Westinghouse states, in a recent paper, that on a ten-car train it required 25 seconds for the full application of the brakes, while the automatic brake as first used required about 8 seconds.

The old form of straight air brake was used in this country until about 1873. In 1872 the automatic brake was patented, differing greatly from the old straight air brake. The points of difference were these: There was one train pipe three-quarters of an inch in diameter, running from the compressed air reservoir on the engine back through the train. This pipe communicated on each car with an auxiliary reservoir, which auxiliary reservoir, together with the train pipe, were connected in ordinary running with the compressed-air reservoir on the engine, and were full of compressed air. The brakes were applied by reducing the pressure in the train pipe, which shifted the triple valve, and established communication between the auxiliary reservoir on each car and the brake cylinder. Instead of the compressed air, therefore, having to travel from the engine back to the brake cylinder in each car, as in the old straight air brake, it had only to travel from the auxiliary reservoir to the brake cylinder. The advantage of this automatic brake over the old straight air brake was, therefore, first, its quickness of application; for, instead of the whole amount of compressed air necessary to fill the brake cylinders throughout the train having to pass through the train pipe, it was only necessary for the air in the train pipe to flow out through the engineer's valve to a sufficient extent to reduce the pressure enough to operate the triple valve, when the compressed air from the auxiliary reservoir on each car passed at once into its brake cylinder. Second, this brake operated automatically in case the train broke in two, while the old straight air brake was not automatic.

There are on record many trials of this new form of automatic brake. It was perfected between the years 1873 and 1876, and is now the form used on passenger equipment throughout the country. I will quote some reports of stops made with this brake, but at the same time would call attention to the fact that the distance in which a train is stopped affords no indication of itself of the value of a brake, for the reason that the condition of the rails, the grade, the pressure in brake cylinder, the leverage, the percentage of the whole weight of train which is braked, and other elements, affect the results. The grade and the percentage of unbraked weight are generally stated, and may be allowed for, while the effect of the other elements must remain uncertain.

In 1873, some tests were made on the Eastern Railroad in this State. These tests are sometimes referred to, but, as the observations were very crude, they are really of no value.

The noted Newark brake trials in England, on the Midland Railway in 1875, were the first extended trials of continuous brakes. They showed conclusively the superiority of continuous brakes over the old hand brakes, but their further results are not of value in this connection.

In 1876 comparative tests of automatic and vacuum brakes were carried on in England on the North British Railway, under the direction of the railroad commissioners. The train consisted of the engine, tender, eight cars, two vans and the experimental van. The results for vacuum brakes need not be quoted here, but the automatic brake gave the following results: With 86 per cent. of the total train weight braked, on level track, the Westinghouse automatic brake gave stops as follows: —

	Equivalent Stop with Total Weight Braked.
At 30 miles an hour, 328 feet,	290 feet.
40 miles an hour, 550 feet,	480 “
50 miles an hour, 777 feet,	680 “
55 miles an hour, 910 feet,	790 “

In some further trials on the Northeastern Railway in England, with a train consisting of an engine, tender, nine cars and three vans, the same brake gave stops as follows, the weather being very favorable: —

	Equivalent on a Level for Total Weight Braked.
At 50 miles an hour, about 90 per cent. braked, down grade 0.13 per cent., 610 feet (best stop),	550 feet.
60 miles an hour, about 90 per cent. braked, on a level, 965 feet,	870 “

As a result of these experiments in England, the Board of Trade stated, as one of the requirements of a brake, that it should be able to stop a train on a level from a speed of 50 miles an hour in 825 feet, or less.

In 1880 Captain Galton made some experiments with a single vehicle on the Lancashire & Yorkshire Railway with the Westinghouse automatic brake, giving the following results, corrected for grade and on the basis of the entire weight braked: —

At 41½ miles an hour,	312 feet.
61 miles an hour,	980 “
67 miles an hour,	1,120 “

The rails in these three stops were moist.

At 66 miles an hour,	1,150 feet.
46 miles an hour,	515 "

The rails in these two stops were moderately dry.

At 59½ miles an hour,	960 feet.
46 miles an hour,	480 "

The rails in these two stops were dry.

No systematic tests of brakes, so far as I know, were made in this country until the year 1886. Railroad managers had for many years recognized the importance of continuous brakes, and the passenger equipment of the country was generally fitted with the ordinary Westinghouse automatic brake with a three-quarter-inch train pipe. The Burlington tests of 1886 and 1887 showed that there was room for very great improvement in the matter of brakes. Before referring to those tests, however, attention should be called to a few principles regarding the action of brakes.

A moving train possesses a certain energy which must be overcome, in bringing it to a stop, by the friction of the brakes and the train resistance. Allowance must be made, of course, for the effect of grade.

When a brake-shoe is pressed against a wheel, as long as the wheel continues to revolve, the friction between the brake-shoe and the wheel determines the amount of the retarding force. If the brake-shoe pressure is increased until the wheel slides on the rail, the friction between the wheel and the rail determines the amount of the retarding force. As the brake-shoe pressure is increased towards the limit at which the wheel would slide, the friction between it and the wheel increases. The wheel will continue to revolve without slipping upon the rail until this friction between wheel and brake-shoe equals or exceeds the adhesion between wheel and rail, plus a force due to checking the revolution of the wheel itself. The greatest retarding force will be exerted when the brake-shoe is pressed against the wheel with a force almost, but not quite, sufficient to slide the wheel. With a given pressure, however, the friction between it and the wheel is much greater at low speeds than at high speeds. At the same speed, the friction decreases the longer the time during which the brake-shoe and the wheel are in contact; but in a stop this decrease is not sufficient to counterbalance the increase of friction due to the reduction of speed, the net result being that the friction increases from the time when the brakes are first applied, and is greatest at the end of the stop. In order to produce the greatest retardation, therefore, — that is, to keep the wheels always just below the point of sliding, — the pressure on a brake-shoe should be greater at high speeds than at low speeds; that is, it should be greatest when the brakes are first applied, and should be gradually diminished thereafter.

This brief explanation has been given for the purpose of showing the requisites of a perfect brake; that is, a brake which should exercise as great a retarding force upon a train as it would be possible for a brake to exercise. Having determined the characteristics of a perfect brake, it will be interesting to compute the stops which could be made with such an apparatus. A comparison between such computed stops and the stops actually made by the best brakes, will indicate the degree of improvement still possible.

A perfect brake apparatus should evidently possess the following characteristics: —

First, the brake should be applied to every wheel in the train.

Second, the brake-shoe pressure should be so regulated as to keep every wheel just on the point of sliding, throughout the stop; that is, the brake-shoes should be pressed hardest against the wheels when they are first applied, and the pressure should be gradually diminished during the stop, as the velocity is reduced.

Third, the brake should act instantaneously on every wheel in the train by one movement of the engineer, or of the person who applies it.

Fourth, the brake should be automatic in its action, applying itself when a train breaks in two.

It is further desirable that a brake should be simple, inexpensive and durable.

A perfect brake would be able to bring a train to rest on a level, under favorable circumstances, in distances approximately as given in the table below.

MILES PER HOUR, ...	20	30	40	50	60
Train would stop on a level, under average conditions, without brakes, in about .	Feet. 3,550	Feet. 7,100	Feet. 11,360	Feet. 14,800	Feet. 16,000
A perfect brake would stop a train on a level, under average conditions, in about.	70	160	280	430	620
A perfect brake would stop a train on a level, with wet and slippery (but not icy) rails, in about . . .	90	210	370	570	800

These distances are not exact, because the data on which the computation is based, such as the resistance of friction, etc., are variable.

Brakes as ordinarily applied in this country on passenger trains fail to fulfil the first three requirements of a perfect brake, that is to say : —

1. They are not applied to every wheel in a train.
2. The brake-shoe pressure is not such as to keep the wheels always on the point of sliding.
3. They are not applied instantaneously.

Of these defects, the first may be practically done away with ; the second can never be entirely obviated under all circumstances ; the third can be entirely removed by the use of electricity, and much reduced by using the latest quick-acting devices not operated by electricity.

If a brake is not arranged to be applied to every wheel in a train, the efficiency is diminished by the proportion which the weight carried on the unbraked wheels bears to the total weight of the train. As it is perfectly practicable to apply brakes to every wheel of a six-wheel truck, the application of brakes to every wheel in a train, excepting the truck wheels of the locomotive, should be insisted upon.

The adjustment of the brake-shoe pressure so that the wheels shall always be on the point of sliding is a difficult matter, and one that cannot as yet be accomplished perfectly under all conditions ; since, in order to accomplish this result, the pressure should be varied not simply with the speed, or rather with the coefficient of friction, but also with the weight of the car. That is to say, not only should the brake-shoe pressure be greater at the beginning of the stop, but it should be greater with a loaded car than with an empty car.

Some twelve years ago, as a result of the Galton experiments, Mr. Westinghouse devised a valve by which the pressure in the brake cylinder was made proportional to the friction of the brake-shoes on the wheels ; in other words, the brake-shoe pressure was adjusted so as to diminish toward the end of the stop. With this valve, experiments made in 1879 gave some stops as follows, reduced to a level, and for total weight braked : —

At 45 miles per hour,	288 feet.
60 miles per hour,	520 feet.
60 miles per hour,	510 feet.
55 miles per hour,	585 feet.
60 miles per hour,	642 feet.
57 miles per hour,	630 feet.
55 miles per hour,	505 feet.
55 miles per hour,	425 feet.
62 miles per hour,	520 feet.
54 miles per hour,	680 feet.
57 miles per hour,	660 feet.

These performances indicate that this brake was in reality a perfect brake under the conditions of the trial, since, being applied to but one vehicle, it was practically instantaneous in action; and the brake-shoe pressure was varied with the speed, and adjusted in that case to the weight of the car.

On comparing these stops with the stops given in the second line of the table on page 142, computed for a perfect brake, it will be observed that some of the actual stops were better than those given by that table. Thus, the stop in 520 feet from 62 miles an hour is better than that given in the table, which is over 620 feet. These differences, as well as the discrepancies between stops from the same speed, are due to the fact that the condition of the rails is variable, the adhesion being at some times three or four times as great as at others. The second line of the table on page 142 was computed for an average adhesion, under fair conditions; but it appears that the circumstances attending the actual stop in 520 feet were remarkably favorable. Attention is called to the fact proved by these figures; namely, that what has here been called a perfect brake is not something which is *theoretically* perfect and far from attainable, but that, on the contrary, although the actual apparatus can never quite perfectly fulfil the conditions specified on page 142, yet the stops given in the above table may, under favorable circumstances, be attained, and even improved upon in actual practice.

In the case of ordinary passenger or freight cars, the problem of adjusting the brake-shoe pressure to the weight of the car is, however, one of considerable difficulty. If the pressure is adjusted for the weight of the loaded car, it will be too great for the empty car; and when the car is empty the brakes will slide the wheels, thus injuring them by wearing flat spots. It has therefore become the practice to adjust the brake-shoe pressure to the weight of the empty car, making it about 90 per cent. of that weight for passenger cars and 70 per cent. for freight cars. These pressures are not at all sufficient to exert the maximum retarding power at the beginning of a stop, if the speed is high, for they are so assumed that the wheels will not ordinarily be slid upon the rails, even towards the end of the stop. Such a brake, therefore, fails to exert the maximum retardation at the time when it is most needed, — that is, at the beginning of the stop.

With regard to the brake-shoe pressure, we therefore see that the defects of the ordinary brake are twofold: first, in that the pressure is not regulated during the stop; and second, in that it is not proportioned to weight. The first defect may be largely obviated by the use of the Westinghouse regulating valve. This valve, however, has never been used in practice; not, apparently, because of any defect in its operation, or because of cost or complication, but because it is one of the refinements of brake apparatus, and the Westinghouse Company have thought it more important to secure the general adoption of the ordinary brake, and to emphasize the importance of keeping the brake gear in good order.

In reply to my inquiry, the company, under date of Sept. 17, 1890, wrote regarding this valve as follows: —

"It does not seem to us to be too complicated for practical service, and we believe, in the course of time, that it, or its equivalent, will come into general use. We have never given the matter of its introduction serious consideration, for the reason that the average condition of brake gear, and methods of handling and care of brakes, have been of such a nature that we have felt that much more was to be accomplished, for the present, by calling the attention of those interested to the improved results to be obtained by proper attention to these points.

"This pressure-regulating valve is one of the refinements of brake practice; and, until railroad people take sufficient interest in the subject to see that their equipment is fitted with a proper system of levers and rods, and that their employees maintain the existing apparatus in fairly good order, it hardly seems advisable to add further parts to the apparatus, which would necessarily require some intelligent attention."

These remarks are thoroughly sound. It is undoubtedly true that for the present much more is to be accomplished by urging the importance of driving-wheel brakes, of brakes on every wheel of six-wheeled trucks, of proper adjustment of leverage and of proper care and maintenance of brake apparatus, than by urging the use of this valve. It must further be remarked that, owing to the variations in the coefficient of friction between wheel and rail, and between wheel and brake-shoe, this appliance could not, under all conditions, succeed in keeping the wheels just on the point of sliding, even if the weight of the car were invariable. It must be adjusted for some assumed value of the adhesion, which should be a low value, in order that the wheels may not be slid; and consequently for other conditions it will be somewhat less effective than for the condition for which it is adjusted. The loss of efficiency from this cause, however, would not be as great as might at first sight be supposed, judging from the great variations in the adhesion; since the condition of the wheels and brake-shoes will be similar to that of the rails, and consequently the brake-shoe friction will vary in the same manner that the adhesion varies.

The fact remains that without this valve the brake-shoe pressure at the beginning of a stop from a speed of 50 miles an hour is not ordinarily over from one-third to one-half of what it should be in order to produce the greatest reduction of velocity; although the beginning of a stop is precisely the time when, in an emergency, it is most essential to reduce the speed.

While this attachment requires the test of experience before its value can be conclusively stated, there is no reason apparent why it would not prove a considerable improvement to the ordinary apparatus; and the advantages to be derived from its use are so great that it ought to be tried in regular service. If it is found to work satisfactorily and reliably, its introduction should be advocated.

The loss of efficiency in the case in which the brake pressure is constant and equal to nine-tenths of the weight on the wheel, as compared with the efficiency possible with an apparatus regulating the brake pressure during the stop, would vary with the speed, being probably somewhere in the neighborhood of 20 per cent. at 20 miles an hour, 25 per cent. at 30 miles an hour, 35 per cent. at 40 miles an hour, 45 per cent. at 50 miles an hour, and over 50 per cent. at 60 miles an hour. It would probably be easily practicable to obtain an increase of efficiency equal to one-half of these percentages. It is thus apparent that this apparatus would increase the efficiency most at high speeds, and it is obvious how important it is to reduce the speed as much as possible during the first part of a stop.

As to adjusting the brake-shoe pressure to the weight of the car, a number of patents have been taken out, but no thoroughly satisfactory method seems to have yet been devised.

The third point in which the ordinary automatic brake fails to be a perfect brake is that it is not instantaneous in its action. It is in this respect that the greatest improvements have been made in the last few years, and in which the Burlington tests have borne the richest fruit. Captain Galton, in 1878, with the ordinary automatic brake, found that the brake-shoe began to move in one-quarter second on the first car of a train, in one second on the seventh car, in one and three-quarters seconds on the thirteenth car and in three seconds on the twenty-first car; while the brakes were fully applied on these cars in respectively one and one-half, two and one-half, three and one-half and five and one-half seconds. In 1886 the Westinghouse experimental freight train was equipped with the old triple valve and a three-quarter-inch train pipe, such as is generally used in the passenger equipment of the country, and the same as was used in Galton's experiments. Under these circumstances, in an emergency stop, the brakes began to be applied on the fiftieth car in about eight seconds, and on the twenty-fifth car in about three seconds. They were fully applied on the fiftieth car in about twelve seconds, and probably on the twenty-fifth car in about five seconds. In 1887 the Westinghouse train was equipped with improved apparatus. The train pipe was made one inch in diameter, and a new triple valve was used, in which, as soon as the pressure in the train pipe was reduced so as to shift the valve sufficiently, a communication was opened between the train pipe itself and the brake cylinder, thus allowing the air from the train pipe to flow into the cylinder, instead of having to flow out through the engineer's valve. When the pressure in the train pipe and brake cylinder was equalized, communication between the two was automatically shut off. This improvement, while it rendered the action of the brakes much quicker, did not by any means make them act instantaneously. The triple valves still acted successively from the front of the train towards the rear, though in more rapid succession. Thus, in 1887, the brakes began to be applied on the fiftieth car in five seconds, as against eight seconds in 1886.

Electricity, however, was relied upon, in the 1887 Burlington tests, to ensure quick application of the brakes. The Westinghouse train was provided with electric valves, by means of which the train pipe was opened simultaneously at several points besides at the engineer's valve. A competing brake, the Carpenter, was arranged with the admission to and release from *every* brake cylinder operated by valves controlled by electricity. In the Carpenter train, therefore, the brakes were applied absolutely at the same moment, while in the Westinghouse train some appreciable time was lost. Otherwise, the brakes were similar in operation. A comparison of some stops in 1886 and 1887 will show the great advance made in that short interval.

Stops in 1886 and 1887. Train of Fifty Empty Freight Cars.

Corrected for Speed, Grade and Per Cent. of Unbraked Weight.

SPEED. (MILES PER HOUR.)	1886.	1887.		
	Westinghouse Automatic Air.	Westinghouse Automatic Air.	Westinghouse, with Electric Valves.	Carpenter Electro-air.
	Feet.	Feet.	Feet.	Feet.
20, ...	286 320	183 218	130	95 101
40, ...	860	663	490	416 343

It is interesting to compare these with the figures on page 142 for the performance of a perfect brake under ordinary conditions. For the slow speed of 20 miles per hour, the Carpenter brake was almost a perfect brake, being adjusted as it was for the weight of empty cars. If the brake pressure had been varied, however, some increase of efficiency would have resulted. For loaded cars, the brake-shoe pressure remaining unchanged, the brake would not give as high an efficiency. At 40 miles per hour, the effect of a constant brake-shoe pressure, instead of one decreasing with the speed, no doubt caused the principal part of the difference between the performance of this brake and that of a perfect one.

Following the regular tests at Burlington, some tests were made with a train of passenger coaches equipped with the ordinary Westinghouse brake. This train was compared with one of eleven freight cars with the new triple valve and one-inch train pipe, the two trains being of about the same weight, and the proportion of braked to unbraked weight being about the same. The difference in results, therefore, indicates in a general way the effect of the new triple valves and the increased size of train pipe.

			Stop in feet.	Best stop.
11 freight cars,	30	miles per hour,	321 (average of 3),	304 feet.
8 coaches,	30	" "	456 (average of 3),	409 "
11 freight cars,	40	" "	548 (average of 3),	502 "
8 coaches,	40	" "	850 (average of 2),	832 "

After the Burlington tests, Mr. Westinghouse, desiring to do away with the necessity for using electricity, and to make his brake quicker in action, enlarged the train pipe for freight cars to one and a quarter inch, and made some further changes in the triple-valve and in the engineer's brake valve. These changes added very greatly to the efficiency of the apparatus. The only recorded tests of this newest brake are those made on the Westinghouse train, at various places, in the fall of 1887. These tests indicate that a train of fifty empty freight cars can be stopped on a level in about 170 feet from a speed of 20 miles per hour, and in about 600 feet from a speed of 40 miles per hour, without sliding the wheels towards the end of the stop. If the leverage is increased so as to produce a greater retardation at the beginning of the stop, even though the wheels slide towards the end, it appears that a stop can be made in 100 to 110 feet from a speed of 20 miles per hour, and in about 400 feet from a speed of 40 miles per hour, these stops being with a one and one-quarter inch train pipe.

With regard to passenger trains it appears that, with the latest quick-acting Westinghouse brake, with one-inch train pipe such as is now used on passenger equipment, everything being favorable, the apparatus well adjusted and in good order, the cars empty, the whole weight braked, and the leverage adjusted for the weight of the car, an ordinary passenger train may probably be stopped on a level within the following distances, the wheels not sliding towards the end of the stop : —

At 20 miles per hour,	in about 120 feet.
30 miles per hour,	in about 280 "
40 miles per hour,	in about 500 "
50 miles per hour,	in about 800 "
60 miles per hour,	in about 1200 "

The stop may, under favorable circumstances, be made in smaller distances if the leverage is increased, as just explained.

Brake power on ordinary passenger equipment is, generally speaking, susceptible of improvement in the following directions : —

1. The use of brakes on the driving wheels of the engine.
2. The use of brakes on every wheel of six-wheel trucks.
3. The introduction of the new quick-acting brake.
4. Varying the brake-shoe pressure during the stop according to the brake-shoe friction.
5. Varying the brake-shoe pressure according to the load.

Of these five directions in which improvement is possible, all but the last are practicable at the present day. The use of driver brakes, and of brakes on every wheel of passenger cars, should be insisted upon, and there is no excuse for their omission. The driver brake should go on with the same lever that applies the train brake. The introduction of the new quick-acting brake should be pushed. It is not to be expected that a railroad company can change its brake equipment at once ; but all cars newly equipped should be fitted with the quick-acting brake, and the old ones changed as rapidly as practicable.

The introduction of some device for varying the brake-shoe pressure during the stop is probably only a matter of time. It would increase considerably the efficiency of the brake, especially at high speeds, and would probably add little to the expense and complication. The proportioning of the brake pressure to the load is less important with passenger cars than with freight cars, because the proportion of live load is less ; and it will probably be some time before any device for this purpose is generally introduced, In the Eames vacuum brake, as tested at Burlington, an ingenious apparatus for this purpose was used. Its action was, however, affected by wear of the brake-shoes.

As showing how deficient our ordinary passenger trains are in brake power, compared with that which they might possess if the first four conditions above noted were fulfilled, we may consider a train made up as follows : —

1 engine weighing 90,000 pounds (with 60,000 pounds on drivers).
1 tender weighing 30,000 pounds empty, and 75,000 pounds loaded.
4 coaches weighing, empty, 45,000 pounds, and loaded, 55,000 pounds each (with four-wheel trucks).
4 coaches weighing, empty, 78,000 pounds, and loaded, 80,000 pounds each (with six-wheel trucks).

The following table gives the weights of each car, loaded and empty. Column 5 gives the braked weight in case there are no driver brakes, and no brakes on the centre wheels of six-wheeled trucks. It will be seen that the loss of efficiency by this omission is 31 per cent. ; that is, the train could only be stopped in a distance nearly one and one-half times as great as would be required if every wheel were braked. By reversing the engine skilfully, the stop may be improved ; but, regarding this procedure, your own remarks on pages 38 to 41 of the last annual report fully cover the ground.

	Empty.	Loaded.	Brake-shoe pressure adjusted to about 90 per cent. of empty train.	Braked weight. No driver brakes, and only 8 wheels per car braked.
Engine, on truck, . . .	30,000	30,000	–	–
Engine, on drivers, . .	60,000	60,000	50,000	–
Tender, ...	30,000	75,000	27,000	30,000
Four eight-wheel coaches, .	180,000	220,000	162,000	180,000
Four twelve-wheel coaches, .	312,000	320,000	281,000	208,000
Totals, ...	612,000	705,000	520,000	418,000

The results of the previous table may be expressed in the following manner : If we call the braking power of a perfect brake unity, we shall have, in round numbers, and for favorable conditions, the braking power in other cases as follows*: —

	Fifty Miles per Hour.	Twenty Miles per Hour.	Fifty Miles per Hour.	Twenty Miles per Hour.
1. Perfect brake, ...	1.00	1.00	–	–
2. Quick-acting brake, on every wheel except locomotive truck wheels, adjusted for a brake-shoe pressure of nine-tenths the empty weight, ...	0.42	0.60	1.00	1.00
3. Quick-acting brake, but no driver brakes, and only on four wheels of each truck, adjusted as before, ...	0.30	0.43	0.72	0.72
4. Ordinary automatic brake, without driver brakes, and only on four wheels of each truck, adjusted as before, about, . .	0.28	0.34	0.67	0.57

If we call the second condition the one practically attainable, as it is without the use of some attachment equivalent to Mr. Westinghouse's regulating valve, and represent it by unity, we shall have the ratios shown in the last two columns. That is to say, a train such as we have assumed, fitted with the ordinary automatic brake, in being brought to a stop from a speed of fifty miles an hour, would probably run over three times as far as if fitted with a perfect brake, and about one and one-half times as far as if fitted with the best brake having constant brake-shoe pressure.

This table shows the interesting fact that the advantage gained by the use of the quick-acting brake is less, in per cent., the higher the speed; that is, the percentage of reduction which can be made in the length of stop diminishes as the velocity increases. This is so because the advantage gained by the quick action is the saving of a constant interval of time, independent of the speed, — that is, of an interval of *distance* which varies *directly* as the speed; and, since the length of stop varies approximately as the square of the speed, the saving in distance increases less rapidly than the length of stop.

There is further no doubt that the leverage on many cars is not correctly adjusted, so as to give the proper braking power. Although a leverage which gives a brake-shoe pressure of 90 per cent. of the empty weight of the car should not ordinarily slide the wheels, even towards the end of the stop, yet the desire to save the wheels and to reduce all chance of their sliding, in any condition of the rails, often leads to an adjustment of leverage diminishing to a serious degree the braking power available. If the brakes are only applied to eight wheels out of twelve, the braking power of a train of parlor cars and sleeping cars is not more than two-thirds of what it should be; and, allowing for small leverage, it is very probable that the braking power is frequently not over one-half of what it should be, notwithstanding the fact that trains composed of parlor and sleeping cars are precisely those which should have the greatest braking power, since they are run at the highest speed. Indeed, it is doubtful whether there is a fast passenger train running in the State in which the brake power for stops from high speeds, of 50 miles an hour or more, is over 75 per cent. of that which is practically possible at the present day, even without the regulating valve. There are probably many trains with less than one-half the brake power which they should possess. It must be remembered, as already stated, that the length of stop, while it is the simplest and most obvious method of comparison, and while it may serve in this paper in making comparisons under similar circumstances, is valueless as a means of judging directly of the power of a brake, since it depends on the conditions of the weather and of the rail, and upon other circumstances.

---

* No allowance is here made for the effect of reversing the engine.

As further illustrating how defective in brake power passenger trains frequently are, we may refer to some stops made in 1887, at the time that the last Westinghouse experimental freight train of fifty cars was being exhibited. In these stops a passenger train was run alongside of the freight train, and the tests were made to demonstrate the superiority of the new quick-acting freight-train brake over the ordinary passenger equipment. On the West Shore Railroad a train of twenty freight cars, with the leverage increased, was stopped in 495 feet from a speed of 45 miles per hour, while the passenger train was stopped only in 1,204 feet. At another place the freight train was stopped from 49.5 miles an hour in 648 feet, and the passenger train in 932 feet.

It may not be uninteresting to review the principal accidents involving loss of life which have been described in the reports of this Board, with a view to form some idea of the degree in which the loss of life and the destruction of property might have been mitigated by the employment of more powerful or efficient brakes.

On the 26th of August, 1871, the Beverly accommodation train on the Eastern Railroad was run into at Revere station by the Portland express, which was following it on the same track. The Portland express was running at a speed of from twenty to twenty-five miles an hour, and its engineer apparently saw the tail lights of the accommodation train in front of him at a distance of some 800 feet. The train was provided with hand brakes only, and the engineer, on perceiving the train in front of him, whistled for brakes and reversed his engine. The rails, however, were damp and slippery, and the 800 feet of interval only sufficed to bring down the speed of the colliding train to about 10 miles an hour at the instant of collision. The accident resulted in the death of twenty-nine persons, while fifty-seven others were more or less severely injured. Notwithstanding the condition of the rails, it appears in the highest degree probable, that, if the train had been equipped with the present Westinghouse quick-acting brake, and even with the old straight air brake, this accident would have been either entirely averted, or its consequences rendered very much less disastrous.

On the 3d of October, 1873, an accident occurred at Brimfield, on the Boston & Albany Railroad, in which an express passenger train running at about 40 miles an hour was turned onto a siding by a misplaced switch, and ran into some platform cars standing on the siding. Nobody was severely injured, though several persons were slightly bruised. The train was equipped with the Westinghouse brake, — probably the straight air brake, — and the engineer appears to have become aware of his danger when he was about 400 feet from the cars on the siding. He applied the brake, but the brake power was not sufficient to stop the train. With the new brake as at present used, under ordinary circumstances and on a level, 400 feet would suffice to stop a train moving at 35 miles an hour.

On the 15th of January, 1874, an accident occurred at Middleborough Junction, in which a train from New Bedford, running at a speed of about 20 miles an hour, ran off an open Tyler switch and was derailed. "The engine and three forward cars and the forward truck of the fourth car kept the track, but the rear truck of the fourth car and the fifth and sixth cars were derailed. After running a short distance, the connecting bar at the rear end of the fourth car became broken, and the fifth and sixth cars were precipitated down the side of the embankment (which at that place was about ten feet high), and lodged on their sides with the under sides of their trucks towards and facing the track." Eight persons were injured, of whom one died. The train was not equipped with continuous brakes, and, while no data are given as to the distance which the train passed over after leaving the switch, it seems at any rate probable that a brake such as the new Westinghouse brake might have prevented the evil consequences of the accident, since at 20 miles an hour such a brake would stop a train on a level in about 120 feet.

On the 25th of January, 1875, a rear collision occurred on the Old

Colony Railroad at Harrison Square. Nobody was killed or seriously hurt. The train was not provided with continuous brakes, and, had it been, the collision would not have occurred.

On Sept. 1, 1876, a collision occurred on the Fitchburg road at Wachuset, resulting in the death of one passenger and the injuring of another. The train in front was moving at the rate of from 7 to 10 miles an hour, and the express train came up around a curve in the rear. The distance between the two trains after they came in sight of each other was about 850 feet. The grade was down, at the rate of 60 feet per mile. The cars on the express train were provided with continuous brakes, but the engine was not fitted, and therefore the hand brakes were all that could be relied upon. With efficient train brakes the collision undoubtedly would not have occurred.

On Dec. 20, 1876, a head collision occurred on the Boston, Barre & Gardner Railroad between two mixed trains, one going at the rate of 12 miles an hour, the other at 15. When they came in sight of each other they were said to be "only 250 feet apart." With the new Westinghouse brake, a train going at 12 miles an hour on a level could be stopped in about 50 feet, and one going at 15 miles an hour in about 70 feet. Such brakes would probably have prevented or greatly reduced the force of the collision.

On Oct. 8, 1878, an accident occurred at Wollaston Heights on the Old Colony Railroad, less than two miles from the scene of the recent disaster at Quincy, and strikingly similar to the latter. As that disaster called special attention to the question of brakes, it may be well to refer to it here in some detail. An excursion train, consisting of two engines and twenty-one cars, some two hours late, was approaching Boston. A freight train was standing on the outbound track, and its engine was engaged in switching some freight cars from a siding, to do which it had to cross the inward track. The conductor of the freight train was not expecting the excursion train, and the switches were set wrong for the latter, the switch connecting the two main tracks (which was a trailing switch for the inbound train) being set for the crossover, and the switch connecting the inbound track with the siding being set for the siding. These switches were Tyler safety switches. The excursion train was equipped with the Westinghouse straight air brake. When its engineer became aware of the danger and put on his brakes, he was within about 700 feet of the siding switch, and running at a speed of about 20 miles an hour. Both engines and the cars passed safely over the trailing crossover switch, although it was set for the crossover. When the train reached the switch for the siding (which was a facing switch), it would naturally simply have run on to the siding and come to a stop; but the engineer of the freight train had in the mean time reached this switch, and was endeavoring to set it for the main track. He only succeeded in partially doing so. Both engines were derailed at this switch, and, after going a short distance, toppled over; but the cylinder of one of them projected in such a way as to tear out the entire side of one car and part of the side of another car. Nineteen persons were killed and some fifty injured. After this accident your Board in its report called attention to the subject of brakes, and to the marked deficiency of the straight air brake in regard to quickness of application, especially on a long train. If the train was moving at a speed of not more than twenty miles an hour, and if the engineer perceived his danger at a distance of 700 feet, even the ordinary automatic air brake at present in use on passenger equipment would doubtless have prevented this accident, or would at any rate have so reduced the speed of the train as to have prevented fatal results. As it was, with such an exceptionally long train, equipped with the straight air brake, the effect of the brakes was only felt at first on the forward cars, while the rear cars by their momentum pushed the forward cars ahead of them with irresistible force. No example more forcible than that furnished by this accident could be cited as showing the importance of the best brake which it is possible to have.

On May 3, 1881, a slight collision occurred on the Boston & Lowell Railroad, at Woburn, resulting in the death of one man. The train was said to be going at the rate of five miles an hour, on a down grade of fifty feet to the mile. The engineman saw a misplaced switch when he was 200 feet distant. He used his train brakes, called for hand brakes, and reversed his engine, but could not stop his train. At five miles an hour on a dry track the new Westinghouse brake should have stopped the train in a small fraction of 200 feet.

On April 30, 1883, a rear collision occurred on the Connecticut River Railroad, at Springfield, in which a freight train of twenty-six cars was run into by a passenger train of four cars. A brakeman had gone back a distance of 600 feet from the freight train, and flagged the passenger train. The air brakes were applied and the engine reversed, the speed having been originally twenty-five miles an hour. No further particulars are given; but the data which have been adduced show that a good brake, under ordinary circumstances, would stop a train running at twenty-five miles an hour in very much less than 600 feet.

On March 14, 1887, occurred the Bussey Bridge disaster. Regarding this your Board stated, in its report, "it appeared that seven of the nine cars on the train were supplied with the Westinghouse automatic brake, but none of the brakes would work automatically, because the other two cars had the old Westinghouse straight air brake. Had the train been supplied with automatic brakes throughout, . . . they would have materially diminished the violence of the concussion of the cars against the abutment and against each other, and there is reason to believe that the results would have been less disastrous."

Mention was made, in the last report of your Board, of a collision which occurred on the 26th of April, 1889, on the Boston & Albany Railroad, which strikingly exemplified the lack of proper brake power on our fastest trains. In this case a train of seven cars, of which three had twelve wheels each, ran over a mile on a down grade of 60 feet to the mile before it could be stopped, even though sand was used. The rails were wet, and the original speed was about 45 miles an hour. The train collided with a freight train, but fortunately no one was killed. The engine was not fitted with driving-wheel brakes, and the twelve-wheel cars had only eight wheels braked. In the investigation which followed this accident it was found that, if the engine had been fitted with driver brakes, and if brakes had been applied to every wheel of the twelve-wheel coaches, the brake power would have been increased 35 per cent.

It appears from the summary, that, of the three most serious accidents which have occurred in this State previous to the one at Quincy, — viz., that at Revere, that at Wollaston, and that at Forest Hills, — the first two would have in all probability been entirely prevented if the trains had been equipped with brakes such as can be employed at the present day.

If the records of accidents in all parts of the country had been carefully kept and could be accurately analyzed, it would probably be found that a very large proportion could have been prevented by the use of better brakes; and the statement made at the beginning of this report — that there is no safety appliance of greater importance — would no doubt be found to be fully justified.

Respectfully submitted,

GEORGE F. SWAIN.

Report on the Accident near Yarmouth, on the Hyannis Branch of the Old Colony Railroad, on the 11th of November, 1890.

Hearing Nov. 15, 1890.

At thirty-five minutes past seven on the morning of November 11, passenger train No. 1203, consisting of a locomotive and a combination car No. 142, while backing from Yarmouth to Hyannis, and when about one mile from Yarmouth station, collided with a work train known as extra No. 4, going from Hyannis to Yarmouth. This work train consisted of a locomotive, three flat cars and a caboose.

On the passenger train there were nine passengers and six employees. One of the passengers has died since the accident; three others were seriously injured; the remaining five were injured, but not seriously. Of the employees, both enginemen were badly injured; the conductor of the passenger train, and a brakeman, were slightly injured.

The conductor of the passenger train was George H. Cash; the conductor of the work train was Thomas P. Slavin.

The train of which Mr. Cash had charge leaves Hyannis at 7.10 A.M., for Yarmouth, where it meets the train from Provincetown, and is scheduled to leave Yarmouth on its return to Hyannis at 7.21 A.M., being due in Hyannis at 7.30 A.M. On the morning in question, Mr. Cash, before leaving Hyannis, received from the assistant train despatcher written orders as follows: "C. & E. 1203. Meet work train extra four (4) at Yarmouth." He testified that he read the order when he signed for it, and that he then, as was his custom, folded it up with a duplicate order for the engineer, which was also given him, and put them both in the button-hole on the lapel of his coat. He knew the order meant that extra No. 4 was to follow him from Hyannis to Yarmouth, and that he was to wait at Yarmouth until its arrival. He had received similar orders on previous occasions. His receipt for the order ran as follows: —

No. 1. Time, 7.10 A.M.

Old Colony Railroad, Cape Cod Division.
Hyannis, Nov. 11, 1890.

Answer to special order to C. & E. Train twelve hundred three (1203).

To C. H Nye, *Superintendent.*

We understand meet work train extra four at Yarmouth.

G H. Cash, *Conductor.* This understanding is complete.
———, *Engineer.* C. H. Nye, *Superintendent.*

Cash's train reached Yarmouth at 7.17; but, as the train from Provincetown was late, he was not ready to start on his return trip until about 7.31. As has been the custom, the engineman who ran

Mr. Cash's train from Hyannis to Yarmouth took the Provincetown train from Yarmouth to Boston with his own locomotive, while the engineman who had come from Provincetown shifted his locomotive to the branch, in order to run Mr. Cash's train to Hyannis. When the train for Hyannis was ready, the engineman, upon a signal from Mr. Cash, proceeded, as usual, to back towards Hyannis. Mr. Cash had forgotten all about his orders. It is not known whether his orders were in his button-hole at the time when he gave the starting signal to the engineer.

About a mile from Yarmouth, at a point where the road makes a curve through a slight cut, and where the view is limited to three or four hundred feet, the passenger train and the work train came together. As the passenger train was backing, the locomotive of the work train crashed into the passenger end of the combination car. It ploughed its way entirely through the passenger compartment, and a few feet into the baggage compartment, or through more than two-thirds of the length of the car. The sides of the car bulged out sufficiently to admit the locomotive. Most of the windows of the car were broken, but in other respects the sides and top of the car were but little injured. The engine and more than half of the tender were enveloped in the car. The locomotive did not leave the rails, and after the accident it was dragged to Hyannis encased in the car. The platform of the combination car next to its own locomotive was crushed. It is almost beyond belief that any of the passengers could have escaped with their lives. Only one out of the nine received fatal injuries, and, what is still more incomprehensible, it appeared upon the testimony of two employees that two ladies, whose injuries were not serious, were taken out of the third window from the end of the car at which the locomotive entered.

The passenger train was backing at the rate of about twelve miles an hour. The engineman of the work train states that, when he first caught sight of the passenger train round the curve, it was about three hundred feet away. The first flat car in his train was fitted with air brakes in working order. He applied the air brake, which took effect on the tender and the said first car. He reversed his engine, whistled for brakes, and jumped. The men on his train had so little time to save themselves that they jumped without attempting to set any of the hand brakes. The engineman of the passenger train was so badly injured that his testimony has not been taken. If the engineman of the work train could not see the passenger train until he was three hundred feet from it, then the engineman of the passenger train, inasmuch as the combination car was between him and the work train, could not have seen the work train until the two trains were two hundred and forty feet from each other.

Rule 104 is as follows: —

> When a train is being pushed by an engine (except when shifting and making up trains in yards), a flagman must be stationed in a conspicuous position on the front of the leading car, so as to perceive the first sign of danger, and immediately signal the engineman.

Although the passenger train at the time of the collision was about a mile from Yarmouth, no flagman had been stationed on the front end of the car. The conductor, in ignorance or disregard of his duty to see that his train was protected as required by said rule, was sitting in the middle of the car. The brakeman, who was also acting as baggage master, was on his way through the car to take his place on the platform when he saw the work train coming. He pulled the bell cord. When he reached the platform, the brakes had already been applied. He jumped. The conductor, on seeing the brakeman pull the bell cord, rushed through the car and jumped also.

Conductor Cash forgot his orders to meet extra No. 4 at Yarmouth. His forgetfulness was his failing rather than his fault. The fallibility of the human memory is a well-recognized element of danger in the operation of a railroad, and is guarded against in many ways. Among the rules governing the department of train service of the Old Colony Railroad are the following: —

> 510. No train shall run on an order until after the understanding of the conductor and engineman has been transmitted to the superintendent's office, and the word "complete" and the superintendent's initial letters are received from that office and indorsed on the order; and, should the operator from any cause fail to get the "complete," the train must not run on the order until the "complete" is received. Operators must *never* indorse the "complete" upon an order before receiving it from the superintendent. Conductors and enginemen must read all orders to their baggage masters and firemen before leaving the station where received.
>
> 511. In signing for orders, the conductor and engineman must sign *each for himself, and not one for the other.*

One of the chief and obvious purposes of these rules is to avoid entrusting the safety of a train running upon an order to the memory of any one man. By requiring that orders shall be issued both to the conductor and to the engineman, that each shall sign for himself and not one for the other, and that the conductor and the engineman respectively before starting shall read their orders to the baggage master and to the fireman, the memory of four people is availed of to ensure safety.

Rule No. 519, which provides for the delivery of orders by a messenger to a train at a point not a telegraph station, or while the office is closed, contains the following: "Orders must not be sent in the manner herein provided to trains the rights of which are thereby restricted."

In violation of the purpose and spirit of these rules, in violation of plain requirements of safety, the order to the engineman who was to take the train from Yarmouth back to Hyannis was delivered to Conductor Cash at Hyannis. Upon his receipt therefor, the word "complete" was added by the representative of the superintendent of the division, and the right of way of the passenger train was thereupon taken away and given to the work train, the conductor being the only person on the passenger train who was notified thereof. Moreover, as the baggage master who left Hyannis with Mr. Cash proceeded to Boston, there was no one at Hyannis to whom the conductor should have read his orders, and he did in fact read his orders to no one. On reaching Yarmouth, he had forgotten all about his orders, and therefore failed to deliver to his engineman the order intended for him.

The method of giving orders followed on the morning of the accident was the method which had been adopted on previous occasions. This condition of affairs is absolutely inexcusable. It existed with the knowledge and consent of the division superintendent, C. H. Nye, and the chief responsibility for this accident rests upon him. E. E. Field, the train despatcher, by whose authority similar orders had been previously issued, and Warren A. Perry, the operator, who, in the absence of the train despatcher, gave the orders in question, in excuse for their violation of the rules, can plead that such practice was known to and approved by the superintendent of the division; but the violation of a rule is not justified by the consent of a superior officer. The subordinate who, with the consent of his superior, adopts a faulty practice, renders himself a party to the fault. On the other hand, the subordinate who detects and corrects the faulty practice of his superiors thereby furnishes evidence of his fitness for a higher position.

It was not necessary to take from this passenger train the right of way and give it to the work train, and such right of way should not have been taken unless regular precautions for safety could be complied with. It seems that the orders must have been given with the idea that they were safe enough, considering the circumstances. This is an excessively dangerous delusion. There is no justification for a violation of rules, except necessity.

The accident would have been much less serious if the train had not been backing. A passenger train should never be backed, except in cases of necessity. No necessity existed in this case. There was a Y at Yarmouth and a turn-table at Hyannis. When it is necessary to back a train, the utmost precautions should be taken in order to guard against the extraordinary danger of such a course. In this case ordinary safeguards even were neglected. It was not the first time that the train had been backed. It was the custom to back this train, and the superintendent of the division was aware of the fact. When the superintendent of a division disregards the rules, it is to be expected that the rules will be disregarded also by his subordinates and employees.

The developments of this investigation should lead the managers of our railroads to institute the most searching inquiry as to whether on any portion of their roads officials or employees are following out their own ideas of what is requisite or convenient, instead of obeying the rules of the company. This case indicates that faulty administration is perhaps most likely to be found where the difficulties of correct administration are the least.

The recommendation heretofore made in regard to the desirability of driving-wheel brakes is renewed. Neither of the engines were equipped with such brakes. As the trains were unusually light, and the weight of the engines therefore large in proportion, the unavoidable lapse of time between the application of the brakes and the reversal of the engines was an element of great importance. It is probable that, had the engines been equipped with driving-wheel brakes operated by the same handle as the train brake, the severity of the collision would have been materially diminished.

GEORGE G. CROCKER,
EDWARD W. KINSLEY,
EVERETT A. STEVENS,
Commissioners.

BOSTON, Dec. 22, 1890.

[C.]

GRADE CROSSINGS.

Yarmouth Grade Crossing.

Jan. 31, 1890.

On the application of the county commissioners of Barnstable County, an order of the Board, dated Nov. 22, 1889, giving consent for a grade crossing in South Yarmouth, was amended to read as follows: —

Ordered, that the consent of the Board is hereby given for the laying out of a highway by the county commissioners of Barnstable County across the tracks of the Old Colony Railroad in South Yarmouth at a level therewith, it appearing that by constructing this crossing two existing highway crossings and a private crossing will be discontinued.

WM. A. CRAFTS,
Clerk.

Petition for Discontinuance of Whistling and for Better Protection at Grade Crossings in Waltham.

In the matter of the petition of the Citizens' Club of Waltham, praying that the Boston & Maine Railroad Company may be ordered to discontinue the use of the steam whistle for crossings within the city of Waltham, and also the petition of the same club that said railroad company be ordered to maintain at such crossings such protection by gates, flagmen or electric signals as will render unnecessary the use of the whistle at such crossings.

Hearings, Tuesday, Jan. 21, and Friday, Jan. 31, 1890.

Mr. Sherman Hoar appeared for the petitioners. Due notice of the hearings was given to the Boston & Maine Railroad Company, and said company at the second hearing was represented by its vice-president and general manager, Mr. James T. Furber.

The crossings to which the attention of the Board was directed at the hearings were the Lexington and Lyman Street crossings, now protected by gates; the Hammond, Bacon and Main Street crossings, now protected by flagmen; and the Stowe Street crossing, now unprotected.

The evidence showed that in the day-time the whistling for the crossings was not deemed a serious nuisance, but that the whistling between ten o'clock in the evening and six o'clock in the morning by locomotives on freight trains did seriously disturb the slumbers of those living in the vicinity, and was calculated to aggravate any kind of nervous disease.

It appeared that the gatemen and flagmen are employed only for the day-time, and that the crossings at night have had no protection except that furnished by sounding the whistle and ringing the bell.

The Boston & Maine Railroad Company by its representative made no opposition to the request that Hammond and Bacon Street crossings should be protected by gates, and that Stowe Street should be protected by a flagman ; and, as the evidence showed that the security of human life and the convenience of public travel requires such action, the Boston & Maine Railroad Company is hereby directed at the Stowe Street crossing to station a flagman, who shall display a flag whenever an engine or train passes, whether by day or by night; and also, as soon as frost will permit, to erect gates at the Hammond and Bacon Street crossings, and to station an agent to open and close such gates whenever an engine or train passes, whether by day or by night. Said company is also directed to station an agent to open and close the gates at the Lexington and Lyman Street crossings whenever an engine or train passes, whether by day or by night.

The railroad company having stated at the hearing that it would change the whistles on the locomotives running at night so that they shall be less shrill, no action is taken by the Board upon the prayer that whistling be prohibited. So far as that portion of the complaint is concerned, the case is continued; and, if the change in whistles does not bring about a satisfactory improvement, further hearing as the petitioners may desire, after notice to the railroad company, will be given.

The counsel for the petitioner club stated that it was proposed to ask the mayor and aldermen of the city of Waltham to take steps looking to a separation of the grades at all crossings in said town on the Massachusetts Central Division of the Boston & Maine Railroad. The railroad company by its representative announced that it would not oppose any proceedings for separating grades, but would join the town in accomplishing this very desirable object. The present opportunity is the best opportunity. Fresh obstacles will spring up every year. The work should be done now.

For the Board,

GEORGE G. CROCKER,
Chairman.

FEB. 10, 1890.

PETITION FOR PROTECTION AT A GRADE CROSSING IN HARVARD.

The petition of the selectmen of the town of Harvard that the Board will take such action as may be expedient and proper for the better security of human life and the convenience of public travel at the grade crossing adjoining the Still River station on the Worcester, Nashua & Portland Division of the Boston & Maine Railroad.

Hearing at Still River station, Tuesday, Jan. 28, 1890.

The Boston & Maine Railroad Company was duly notified of the hearing.

The road from Still River Village to Lancaster descends rapidly to the level of the railroad, and after crossing the tracks descends still further to a bridge over the river. From twenty-five to thirty trains pass this station each twenty-four hours. Of these, eleven are passenger trains, eight are regular freight trains, and the remainder are extra freights, so called. Two of the passenger trains do not stop at this station, and two others stop only when flagged. Four of the regular freight trains stop when flagged, and the remaining four and the extra pass without stopping, unless they are to meet trains at this point.

Mr. Mark A. Farnsworth, chairman of the selectmen, stated that a year or more ago he had made application to the railroad company for protection at this crossing, and had twice renewed his application; but that the company had taken no action thereon.

Undoubtedly there are many unprotected crossings in the State at which there is more danger than at this crossing. On the other hand, it is clear that this crossing is not free from danger; and, as it has been brought specially to the attention of the Board by the selectmen of the town, and recent instances have been cited in which the lives of travellers on the highway have been endangered and in one of which a horse was killed, the Board feels that it would not be justified in permitting the existence of greater danger at other points to deter it from ordering protection at this point; and it does therefore hereby direct that a flagman be stationed at the crossing to display a flag whenever an engine or train passes, such action, in the opinion of the Board, being required for the better security of human life and the convenience of the public travel.

The Board further recommends that the location of the railroad be suitably fenced in the vicinity of the crossing, and that cattle guards be placed on each side of the crossing, so that cattle may be driven across the tracks with greater safety.

Further, the Board recommends to the town of Harvard and to the railroad company that they institute proceedings at once for a separation of grades at this crossing. Such separation can now be accomplished at an expenditure which increased convenience and safety will amply justify.

For the Board,

GEORGE G. CROCKER,
Chairman.

Feb. 13, 1890.

North Grafton Crossing.

Upon the petition of the directors of the Boston & Albany Railroad Company, a corporation duly established by law, representing that they are of the opinion that it is necessary for the security and convenience of the public that alterations should be made in the level crossing of the highway leading from Shrewsbury to Grafton, and known as Shrewsbury Street, and said company's railroad in the town of Grafton in the county of Worcester; and furthermore that an alteration should be made in the location of said highway, so that said highway may pass over said company's railroad by a bridge at a point about one hundred and twenty feet west of the North Grafton station, said petition being an appeal from the decision of the county commissioners of said county dismissing a petition of like tenor, and due notice of said appeal having been given as provided by law, — after due notice by advertisement, all parties interested were heard at the North Grafton station on the 11th of December, 1888, and by adjournment on the 15th of January, 1889, and a view of the premises was taken.

Subsequently to the aforesaid hearing, to wit, on May 3, 1889, the Legislature authorized a change of the location of the Grafton & Upton Railroad in the vicinity of the North Grafton station; and, in accordance with the authority so granted, the Grafton & Upton Railroad proceeded to construct and did construct its tracks across said Shrewsbury Street diagonally at a point south of the former location of said tracks.

This change of the location of the Grafton & Upton Railroad materially modified the considerations involved in the case as they existed at the time when it was heard by the commission. Before the change was made, it would have been possible by the construction of an overhead crossing, as prayed for, to avoid all crossings at grade either of the Boston & Albany Railroad or of the Grafton & Upton Railroad at this point. After the change, it became practically impossible, within the scope of the petition, to devise any arrangement by which the public could reach the station without crossing the Grafton & Upton Railroad at grade.

This authorized change of location seemed to this Board to be so far detrimental to the interests of the vicinage and to the interests of the Boston & Albany Railroad Company, that the confident expectation was entertained that the location of the Grafton & Upton Railroad would be again changed and improved.

The decision of the Board upon the petition of the Boston & Albany Railroad has been delayed, awaiting such expected change; but, as there now seems to be no prospect of such a change, the Board adjudges as follows: —

The present location of the Grafton & Upton Railroad in its approach to the North Grafton station, is such that the benefits accruing from the construction of an overhead crossing of the tracks of the Boston & Albany Railroad, as prayed for in the petition, and the promotion of the security and convenience of the public thereby, would be materially less than they would have been had the location of the Grafton & Upton tracks remained unchanged. Under the present conditions and under the present petition, a grade crossing of the Boston & Albany tracks cannot be avoided without obliging all persons going to or coming from the station to cross at grade the Grafton & Upton tracks in close proximity to such cars and locomotives as may be standing at the station.

People coming to the station from the north side of the Boston & Albany tracks are now obliged to cross said tracks, but they avoid crossing the tracks of the Grafton & Upton Railroad. If the prayer of the petition were granted, they would avoid crossing the tracks of the Boston & Albany Railroad at grade, but they could not drive to the station without crossing the tracks of the Grafton & Upton Railroad; and the distance which they would have to travel would be over five hundred feet more than at present.

As none of the inhabitants of the town of Grafton appeared to urge the necessity of granting the petition; as the town itself appeared by counsel in opposition; as the Legislature, the Boston & Albany Railroad not making any opposition thereto, has passed an act as aforesaid, the effect of which has been to diminish greatly the benefits which would result from a separation of grades: —

The Board adjudges that the alterations described in said petition are not necessary for the security and convenience of the public. The petition is dismissed, and the decision of the county commissioners for the county of Worcester is sustained.

For the Board,

GEORGE G. CROCKER,
Chairman.

MARCH 5, 1890.

CORRESPONDENCE RELATIVE TO WEBSTER AVENUE GRADE CROSSING IN SOMERVILLE.

BOSTON, MARCH 5, 1890.

To the President and Directors of the Fitchburg Railroad Company.

GENTLEMEN: — The stenographic report of the evidence taken at the inquest in the case of William Webster, who, on the 12th of December, 1889, at the Webster Avenue crossing in Somerville, received injuries from which he subsequently died, calls our attention again to this peculiarly dangerous grade crossing.

On the 14th of July, 1882, as appears in the Railroad Commissioners' report of January, 1883, page 125, upon the petition of the Charles River Street Railway Company for permission to cross Webster Avenue at grade, this Board with many misgivings authorized such crossing, on the ground that there was no other practicable route. In its decision the Board says, of the crossing: —

> It is a very dangerous one, although by extra precautions the danger has been greatly reduced. . . . The true way to avoid the dangers of a grade crossing by the street railway, and also the danger from the far greater amount of travel which is now imperilled every hour, is clear. The president of the Fitchburg Railroad Company has already expressed his willingness to apply for a separation of grades, by which Webster Avenue shall be carried over the railroad. The same wise and liberal policy that has guided the Fitchburg Railroad directors hitherto will naturally lead them to sustain him in his views, and his honest efforts to prevent a slight increase of annoyance may, by calling attention to the subject, result in delivering the public from a great and acknowledged evil

We commend this matter again to the attention of your company, and trust that proceedings will be instituted forthwith which shall lead to a determination by the proper authorities as to whether it is necessary, for the convenience and security of the public, that the grades at this crossing should be separated. If the highway is carried over the railroad, convenient ways from it to the stations on each side of the tracks should be provided, and all crossing of the tracks at grade should be prevented.

So long as the grade crossing exists near the station, and so long as people at the station are permitted to cross the tracks on a level therewith, accidents will happen in spite of the utmost precaution. The rules which, on the various roads, govern a train approaching a station at which a passenger train is discharging or taking passengers, are discussed in our annual report for the current year. This accident enforces the suggestions therein made. So long as the public can walk across the tracks, accidents will happen, no matter how stringent the rule.

By your Rule 114*a* it is provided that, when a train on the double track is at a station receiving or discharging passengers, trains must not pass or come into that station until the train that is stopping there has left, etc. It was stated in our annual report, and this accident supports the position, that it is not sufficient to limit the required stop to such time only as the train is actually standing at the station. A train ought not to be allowed to approach a station just as another train is drawing out from it. That is exactly the time when people are bent on crossing the tracks both at the station and at the highway grade crossing, if any, adjoining the station. Sometimes the departing train obstructs the view of the approaching train, and sometimes the noise of the departing train prevents people from hearing the approaching train. Sometimes both of these difficulties are combined.

The rules of the New York & New England Railroad provide that a train approaching a station on double track where a passenger train is standing receiving or discharging passengers must be stopped before reaching the passenger train, and must not go forward until the passenger train moves on, *and the passengers are clear of the main tracks*.

As our stations are now arranged, some such limitation should be adopted. A train approaching a station at which another train is receiving or delivering passengers ought not to be allowed to draw up to or pass such a station, or the grade crossing, if any, adjoining such station, until the other train has left the station and has drawn away so far as to no longer obstruct the view, and so far also that the noise made by it cannot drown or be confused with the noise made by the approaching train.

The adoption of such a rule will increase the delays to which trains are now subjected, but is demanded by a reasonable regard for safety where the tracks at and in the vicinity of stations are to be used by the public as foot ways as well as by the railroads for their train service.

The only effectual, comprehensive and complete remedy is the abolition of the grade crossing.

For the Board,

GEORGE G. CROCKER,

Chairman.

Boston, April 23, 1890.

To the Honorable Board of Railroad Commissioners for the Commonwealth of Massachusetts.

Gentlemen: — Your communication of the 5th ult., commending to the attention of this company the question of separation of grades at Webster Avenue in Somerville, has been referred to the Board of Directors. We are unable to see that the lamentable death of Mr. Webster had any connection whatever with the fact that there was a crossing at grade near the point where he was killed. Should this crossing be abolished, as you suggest, it would still be necessary to furnish some way for the passengers to reach the station platform; and a person rushing with the extreme haste of the deceased, so as to be entirely oblivious of danger, would run against a passing train in precisely the same method which he did. Unless, therefore, the separation of the grades is also accompanied, as you suggest, by a barrier between the tracks, so that persons could take the train only upon one side of the railroad, such separation would have no bearing whatever upon the liability to an accident of this nature. This form of restraint upon the patrons of the road, which we understand has been adopted in some cases in foreign countries, has not received, as you are aware, the sanction of the Legislature, and we are of the opinion that it would not be submitted to by the public. We therefore beg leave respectfully to dissent from the view entertained by your Board, that the existence of the grade crossing had any connection whatever with the accident in question.

We have, however, given careful consideration to the suggestions in your letter. While giving due weight to the suggestions of the Board, we are compelled to state that the financial condition of this company does not, in our opinion, authorize us at the present time to incur the expense necessary for the separation of grades. By the estimates of our engineer, it would entail an expense of at least $75,000, exclusive of land damages. As nearly all the lots affected by the change of grade of the street are covered by buildings, the damages would largely exceed the expense of the necessary structures. We are confident that neither the stockholders of this company nor the city of Somerville would now approve of the expenditure of so large an amount of money. In the estimate no allowance is made for the erection of another station house, and the maintenance of practically two separate stations, which would be necessary to carry out the suggestions contained in your communication.

Respectfully yours,

H. S. MARCY,
President.

PETITION FOR PROTECTION AT GRADE CROSSINGS IN DORCHESTER DISTRICT, BOSTON.

The petition of H. S. Carruth and others, residents and property holders of that part of Dorchester district of the city of Boston known as Ashmont, that the Old Colony Railroad Company be required to maintain gates and gate keepers at the crossing of Beale and Vanwinkle streets in said Ashmont by said company's Milton Branch road.

Hearing Feb. 7, 1890, and by adjournment March 5, 1890.

For the petitioners, N. S. Myrick; for the respondent corporation, Josiah H. Benton.

At the hearing it appeared that Beale and Vanwinkle streets are not public ways, and that the question whether any rights of way exist across the location of the Old Colony Railroad in the line of these streets is a very complicated question of law and fact. The Board declines to undertake to determine whether any such rights of way exist, because this question is one which should properly be brought before the courts for decision.

The petitioners have leave to withdraw.

By the Board,

GEORGE G. CROCKER,
Chairman.

MARCH 6, 1890.

APPLICATION FOR A GRADE CROSSING ON THE OLD COLONY RAILROAD IN HINGHAM.

The application of the county commissioners of Plymouth County for the consent of the Board of Railroad Commissioners to the laying out of a new highway in Hingham across the Old Colony Railroad track at grade near Fort Hill Street.

Hearing Thursday, June 12, and by adjournment on Thursday, June 26, 1890.

At the hearing it appeared that the proposed new highway is to take the place of a portion of Fort Hill Street, which crosses the tracks of the Old Colony Railroad in two places, diagonally and at grade. The result, therefore, of the proposed discontinuance and new construction, is to eliminate two diagonal crossings at grade, and to establish in their place one crossing at grade at right angles with the railroad; and the consent of this Board is asked to the establishment of this substitute grade crossing.

One right-angle crossing at grade is much less objectionable than two diagonal crossings at grade; but the question arises whether it is necessary to have any grade crossing at all at this point. Upon the suggestion by the Board of a plan for avoiding any crossing at grade, the engineer of the company after an examination of the premises reported that it would cost in the vicinity of nine thousand dollars to avoid a grade crossing altogether, and that the route would be somewhat circuitous, obliging travellers to go two hundred and fifty feet farther than they would have to travel if they crossed the track at right angles at grade at the point contemplated in the vote of the county commissioners.

The Board deems that the extra distance to be travelled and the expense are not such as to justify the existence of a grade crossing at this point. These considerations are not of sufficient magnitude to outweigh considerations affecting the safety of the public.

The Board cannot, therefore, give its sanction to a grade crossing at this place, even although such crossing is to take the place of two existing grade crossings; and it recommends that, under chapter 428 of the Acts of the present year, application should be made for the appointment of a commission to determine what steps shall be taken towards abolishing the existing crossings and providing a substitute crossing, not at grade.

For the Board,

GEORGE G. CROCKER,
Chairman.

July 30, 1890.

Abolition of a Grade Crossing of the Boston & Albany Railroad in Wilbraham.

Grade crossing near North Wilbraham Station.

Hearing Sept. 3, 1890, at 11 a.m., at the North Wilbraham Station.

The selectmen of Wilbraham and the Boston & Albany Railroad Company having entered, under section 9 of chapter 428 of the Acts of the year 1890, into an agreement for the abolition of a grade crossing immediately adjoining the North Wilbraham Station, and for an alteration in the underneath crossing a short distance easterly thereof, application was made to the Board of Railroad Commissioners for its approval of such agreement, under the authority vested in it by said act.

At the hearing objection was raised that the way crossing the tracks of the Boston & Albany Railroad at grade is not a public way but is a private way, and that therefore the act of the present year is not applicable.

It was admitted that in 1852 the county commissioners voted to discontinue said way as a public way. It also appeared that in 1873 or 1874 board notices were erected at each end of said way, with the following inscription, "Notice. Not a public way. Dangerous," and that such notices have been maintained ever since. Said notices were in position at the time of the hearing.

In behalf of the petitioners, some evidence was submitted for the purpose of proving that the way in question had become a public way by usage, but in the opinion of this Board the evidence was insufficient.

This Board has no jurisdiction unless the way is a public way, and, as the petitioners failed to prove such to be the case, the approval prayed for is not granted.

The Board of Railroad Commissioners,

By GEORGE G. CROCKER,
Chairman.

Sept. 9, 1890.

Obstruction of Middlesex and Thorndike Streets in Lowell by Boston & Maine Railroad.

Upon complaint and application of the mayor and board of aldermen of the city of Lowell, dated March 18, 1890, made under the provisions of chapter 110 of the Acts of the year 1885, and in accordance with the provisions of section 17 of chapter 112 of the Public Statutes, stating that the level crossings of the Boston & Maine Railroad with Middlesex and Thorndike streets are improperly occupied by the Boston & Maine Railroad Company with their freight cars and freight trains, to the unreasonable inconvenience and danger of the public, this Board, after due notice, heard the parties on the 29th day of March, 1890, and by adjournment on the 26th of April, 1890; and, it thereupon appearing that the allegations of the complaint are true, and that the public convenience and safety require the passage of the following order: —

It is hereby ordered that, after the 15th day of November next, said Boston & Maine Railroad Company shall not use or occupy such crossings or any part thereof for making up or disconnecting freight trains, or for connecting or disconnecting the engines or cars of such trains, or for the purpose of distributing freight or freight cars.

While the passage of the foregoing order is calculated to diminish the inconvenience and delay now existing at such crossing, it will nevertheless probably cause inconvenience of a different character to the citizens of Lowell; and the Board earnestly recommends to the city of Lowell and to the Boston & Maine Railroad Company that, under the act of the present year for the abolition of grade crossings, proceedings be begun to secure a separation of the grades of the railroad and of the said highways; and the Board also recommends that, in connection with such separation of grades, a new station, with suitable accommodations for the public and appropriate to the community which it is to serve, be erected.

An order in the premises would have been issued shortly after the hearing, had not an omission on the part of the counsel for the petitioners led the Board to believe that the petitioners desired delay.

The Board of Railroad Commissioners,

By GEORGE G. CROCKER,
Chairman

Sept. 9, 1890.

On the 15th of November, by vote of the Board, the time for the foregoing order to take effect was postponed to Dec. 15, 1890. On the 15th of December, application was made for a further postponement.

Application for a Grade Crossing of the Connecticut River Railroad in Holyoke.

The application of the county commissioners of Hampden County for the consent of the Board to a crossing of the tracks of the Connecticut River Railroad in Holyoke at grade.

Filed Aug. 5, 1890.

Hearing at Holyoke, Tuesday, Sept. 30, 1890.

The county commissioners were represented by T. M. Brown, who was supported by W. H. Brooks, representing various residents in the vicinity. The remonstrants were represented by George D. Robinson, who appeared for the mayor of the city of Holyoke and various individuals; by James H. Loomis, representing Chicopee; and W. W. McClench, representing the Connecticut River Railroad.

A view of the premises was taken, and a full hearing given.

Statutes 1889, chapter 350, section 1, is as follows: —

> The county commissioners of the county of Hampden are hereby authorized and required, within two years from the passage of this act, to lay out a public highway and construct a bridge, with suitable approaches, across the Connecticut River, between the city of Holyoke and that part of the

town of Chicopee known as Willimansett, from the point of intersection of the centre line of Cabot Street with the centre line of Canal Street in said Holyoke, to a point in said Willimansett not more than two hundred and fifty feet southerly from bridge of the Connecticut River Railroad Company.

It appeared that the switch or branch tracks of the Connecticut River Railroad, over which a crossing at grade is desired, are one hundred and sixty-six feet distant from the point of intersection of the centre line of Cabot Street with the centre line of Canal Street, which point is prescribed by the act as one of the termini of the proposed highway. The Legislature having required the county commissioners to locate and construct a highway from this point to some point on the opposite side of the Connecticut River, within two hundred and fifty feet from the bridge of the Connecticut River Railroad Company, this Board held that its powers in the premises were limited by the provisions of the act; that it could not consider whether an avenue could be constructed between other termini so as to avoid a grade crossing; nor could it consider whether it would be better to have no avenue at all rather than an avenue crossing said tracks of the Connecticut River Railroad at grade; that the only question for it to consider was whether an avenue complying with the requirements of the act aforesaid could reasonably and properly be constructed without crossing the said tracks of the Connecticut River Railroad at grade. Neither this Board nor the board of county commissioners has authority to require a change of the grade either of Cabot and Canal streets or of the Connecticut River Railroad. It appeared that it would be practically impossible to construct the avenue so as to cross under the said tracks of the Connecticut River Railroad, and that it could not be constructed so as to cross over said tracks without a grade of twelve or fourteen feet in a hundred for a distance of one hundred and sixty-six feet, of which distance one hundred feet would be on a bridge over the canal; and that such a grade would practically prevent the use of the avenue for the traffic for which it is intended.

The Board finds that the limitations imposed by the act are such that the avenue would be useless for general traffic unless it crosses the tracks in question on a level therewith, and the Board therefore assents to such crossing.

For the Board,

GEORGE G. CROCKER,
Chairman.

Oct. 4, 1890.

THE PETITION OF THE MAYOR OF THE CITY OF CAMBRIDGE REQUESTING THE BOARD TO PRESCRIBE THE DETAILS OF THE FRONT STREET CROSSING IN CAMBRIDGE.

Hearings June 16 and 19, 1890. The case was first set down for June 13, but was postponed by the joint request of counsel to June 16, 1890.

For petitioner, Charles J. McIntire, city solicitor.

For remonstrants, J. B. Richardson, corporation counsel for the city of Boston, and Samuel Hoar, counsel for the Boston & Albany Railroad Company.

The petition is as follows: —

City of Cambridge, Mayor's Office,
Cambridge, May 28, 1890.

To the Honorable the Railroad Commissioners, Boston.

Sirs, — Thereto authorized by the honorable City Council of Cambridge, by an order adopted in concurrence on the 27th inst. and approved this date, I have respectfully to request you to prescribe the details of the crossing at Front Street over the tracks of the Boston & Albany Railroad, and to certify to it your decision thereon, in accordance with the provision of section 6 of chapter 155 of the Acts of the year 1882.

Very respectfully yours,
(Signed) Henry H. Gilmore, *Mayor.*

At the opening of the hearing the following objections in writing to the jurisdiction of the Board over the matter covered by the petition were presented: —

Office of the Board of Railroad Commissioners,
Boston, June 10, 1890.

In the matter of the application of the city of Cambridge requesting the Board of Railroad Commissioners to prescribe the details of the crossing of the Boston & Albany Railroad tracks by Front Street, etc.

The city of Boston objects to the jurisdiction, and to the exercise of jurisdiction, of said Board in the matter of the petition, and objects to said Board prescribing the details of said crossing.

1. Because said Front Street so called, at the place of said railroad crossing, has not been legally located, and the grade of said street at the place of said railroad tracks has not been legally established.

2. Because said alleged Front Street is the avenue mentioned in chapter 155 of the Acts of 1882, and the City Council of the city of Boston has not agreed or concurred in the location and grade of said avenue or street at the place of said crossing of said tracks; and the City Council of Boston has not agreed or consented that said avenue or street may cross said railroad tracks at grade.

(Signed) THE CITY OF BOSTON,
By J. B. RICHARDSON, *Corporation Counsel.*

Also the following:

BEFORE THE RAILROAD COMMISSIONERS, June 16, 1890.

In the matter of the application of the city of Cambridge for an order prescribing the details of the crossing of the tracks of the Boston & Albany Railroad by Front Street, etc., —

The Boston & Albany Railroad Company objects and says that the Board of Railroad Commissioners has no jurisdiction over said petition, because there is no street legally laid out or located at the same level with said tracks or at any level or grade at said tracks.

(Signed) BOSTON & ALBANY RAILROAD COMPANY,
By SAMUEL HOAR, *General Counsel.*

The counsel for the city of Cambridge rested his case on the following statutes and votes: —

Statutes 1882, chapter 155.

Statutes 1890, chapter 338.

Resolve relating to widening and extending Front Street, adopted by both branches of the City Council of the city of Cambridge on July 17, 1888, and approved by His Honor the Mayor, July 20, 1888. Two plans were identified as the plans referred to in the foregoing resolve. One of these plans was a ground plan of Front Street and the other was a profile plan of said proposed street. Both plans were signed by W. S. Barbour, city engineer, and were dated Nov. 7, 1887.

Preamble and order adopted by both branches of the City Council of the city of Cambridge, Jan. 21, 1890, and approved by His Honor the Mayor, Jan. 22, 1890.

Statutes 1853, chapter 151.

In behalf of the petitioner it is claimed that, under chapter 155 of the Acts of 1882 as modified or supplemented or construed by chapter 338 of the Acts of the present year, Front Street, by virtue of the aforesaid resolve passed by the City Council of Cambridge, in July, 1888, has been legally laid out as an approach to the Harvard Bridge, and that a crossing by said street of the tracks of the Boston & Albany Railroad on a level therewith has been established, and the Board is requested, under section 6 of chapter 155 of the Acts of

1882, to prescribe "the details of the crossing." The counsel for the petitioner in his argument further made the statement that, by virtue of the authority given to the city of Cambridge by Statutes of 1853, chapter 151, entitled, "An Act concerning the Union Railroad Company," an order was adopted on July 5, 1854, requiring gatemen and the most approved gates to be furnished by said company (of which the Boston & Albany Railroad is the successor) at all grade crossings in Cambridge; that such order embraced not only the public ways then existing but also those thereafter to be laid out; that such order covers the Front Street grade crossing in question; and that the Boston & Albany Railroad, under the Act of 1853, has been notified to establish and suitably man gates at such crossing, and he suggested that, under the present petition, the city of Cambridge desired the Board to prescribe only such other "details," if any, as might be deemed necessary.

In November and December last, this Board gave hearings on a like petition of the city of Cambridge. That petition was presented on the assumption that Front Street had been duly extended to the new Harvard Bridge, crossing the tracks of the Boston & Albany Railroad at grade, but on investigation it appeared that the concurrent action of the City Council of Boston, which under the Act of 1882 was requisite, had not been obtained, and the petition was dismissed on the ground that it was impossible to prescribe the details of the crossing until it was legally determined where the crossing was to be.

The order of the City Council of the city of Cambridge which was adopted on the 21st of January of the present year, and approved by His Honor the Mayor on the 22d of January, was as follows: —

City of Cambridge,
In Board of Aldermen, Jan. 21, 1890.

Whereas, The city of Cambridge has within its limits taken certain lands for the purpose of widening and extending Front Street, so that it is now an avenue ninety feet in width, from the new bridge across Charles River to Main Street; and whereas said city on its part has located said Front Street between the lines laid down upon a plan on file in the engineer's office of the city of Cambridge, dated Nov. 7, 1887, and on its part has established the grade of said Front Street at grade twenty-one, city grade, for nearly its entire length and so that it will cross the tracks of the Boston & Albany Railroad at grade; now therefore it is hereby —

Ordered, That said Front Street is hereby determined to be the avenue to the bridge as required by section one of chapter one hundred and fifty-five of the Acts of 1882; and it is further hereby —

Ordered, That notice of said action on the part of this city regarding the avenue to be determined, and the location and grade of said Front Street as said avenue, be officially communicated by the city clerk to the City Council of the city of Boston.

The City Council of the city of Boston thereafter adopted the following order, which was approved by the Mayor March 22, 1890 : —

> *Ordered*, That the city of Boston on its part hereby determines the location of the avenue connecting Harvard Bridge with Main Street in Cambridge to be between the lines as shown upon a plan on file in the engineer's office in the city of Cambridge, dated Nov 7, 1887, but crossing the location and tracks of the Boston & Albany Railroad by an overhead bridge, the details of such bridge and crossing to be fixed by the Board of Railroad Commissioners.

The following order was also passed by the Common Council of the city of Boston on June 5, 1890 : —

> *Ordered*, That His Honor the Mayor be requested by all proper means to prevent the opening of Harvard Bridge to public travel, until the use of said bridge has been made reasonably safe by the removal of the present very dangerous grade crossing at the northerly end of the bridge.

It appears then that, by the order approved by the Mayor of the city of Boston on March 22, 1890, the City Council of the city of Boston concurred with the City Council of the city of Cambridge in fixing the line of the avenue and the width of the location, but refused to concur in establishing a grade adapted to a crossing of the tracks of the Boston & Albany Railroad at a level therewith. The requirements of the Act of 1882 have therefore been complied with so far as the line and width of the avenue are concerned, and such line and width may now be regarded as determined in accordance with the provisions of that Act. It follows also that so far as these elements are concerned the question as to the constitutionality of the confirmatory Act of the present year (Stat. 1890, chap. 338) becomes immaterial.

The position of the avenue having been determined in accordance with law, the next question relates to the scope of the jurisdiction of the Board in the premises.

Chapter 155 of the Acts of 1882 is entitled "An Act to authorize the cities of Boston and Cambridge to construct and maintain a bridge over Charles River."

The first section is as follows : —

> The cities of Boston and Cambridge are authorized to construct a bridge and avenue across Charles River, from a point on Beacon Street in Boston to a point in Cambridge west of the westerly line of the Boston & Albany Railroad. The location of said bridge and avenue shall be determined by the city councils of said cities acting separately, subject to the approval of the Board of Harbor and Land Commissioners so far as it affects the harbor, and subject, moreover, to the limitation that the line thereof shall

not be north-east of a line drawn from the junction of Beacon Street and West Chester Park in Boston to the junction of the harbor line with Front Street, extended, in Cambridge, nor south-west of a line drawn from the junction of Beacon Street, Brookline Avenue and Brighton Avenue in Boston to the junction of the Boston & Albany Railroad with Putnam Avenue, extended, in Cambridge. Said bridge shall have a draw with a clear opening of at least thirty-eight feet in width for the passage of vessels.

The second section relates solely to the bridge.

The third section is as follows: —

> Each city may within its own limits purchase or otherwise take lands, not exceeding one hundred and twenty-five feet in width, for said bridge and avenue; and all the proceedings relating to such taking shall be the same as in the case of land taken for highways within said cities respectively, with like remedies to all parties interested; and betterments may be assessed for the construction of said bridge and avenue in each city, in like manner as for the laying out of highways under the betterment acts in force in each city respectively, with like remedies to all parties interested.

The fourth section provides that each city should bear the expense, including land damages, of constructing such part of said bridge and avenue as lies upon its own side of the Charles River. The remainder of such section relates to the distribution of the expense of building the bridge and avenue between the harbor lines and to the care and management of the bridge and draw.

The fifth section declares that the avenue and bridge when completed shall be a public highway, and makes further provision as to the maintenance of that portion of the bridge and avenue which lies between the harbor lines.

Section 6 is as follows: —

> Said avenue may cross at grade any railroad operated by steam, and the Board of Railroad Commissioners shall, upon the application of either city or any railroad corporation, prescribe the details of the crossing and certify to the parties its decision, which decision may be enforced by proper process in equity.

The seventh section relates to the issuance of bonds by the respective cities in payment of the expenses incurred.

The eighth section provides that the Act shall be void unless that portion of the bridge between the harbor lines is constructed within ten years from the passage of the Act.

The phrase in the sixth section, "Said avenue may cross at grade any railroad operated by steam," is on its face permissive. No good reason has been suggested for holding that the word "may" in this connection is the equivalent of the word "shall." Evidently the intention of the Legislature was to permit a crossing at grade if the proper authority should so determine. This interpretation is confirmed by the history of the Act. In the original draft of the Act as reported by the legislative committee, the words "shall not" were used instead of the word "may," and the Legislature amended by striking out "shall not" and inserting "may." If the Legislature had intended to require the crossing to be at grade, the obvious course would have been simply to strike out the word "not," so that the sentence should read "Said avenue shall cross at grade," etc.

The word "may" being permissive it next becomes necessary to determine in whose hands, under the Act of 1882, rests the power to decide whether the avenue shall cross the railroad on a level therewith or by a subway or by an overhead bridge.

Upon this point it will be found instructive to examine the general provisions of law relating to the laying out of public ways across railroads.

Public Statutes, chap. 112, sect. 125, is as follows:—

> A highway or town way may be laid out across a railroad previously constructed when the county commissioners adjudge that the public convenience and necessity so require. And in such case, after due notice to the railroad corporation and hearing all parties interested, they may thus lay out, or may authorize a city or town, on petition of the mayor and aldermen or selectmen thereof, to lay out a way across a railroad in such manner as not to injure or obstruct the railroad, and otherwise in conformity with the provisions of sections one hundred and nineteen and one hundred and twenty; but not permitting it to cross at a level with the railroad unless public necessity so requires, and unless the Board (*i. e.*, of Railroad Commissioners) also consents thereto in writing, in which case the County Commissioners may give special authority for such crossing, as provided in section one hundred and twenty-three.

It appears, therefore, that at the time when the above-cited Act of 1882 was passed a highway or townway could not be laid out across a railroad in any manner without the authority or permission of the County Commissioners, and could not be laid out at a level with the railroad unless the County Commissioners specially adjudged that public necessity so required, and unless this Board also consented thereto in writing. From a veto by either of said boards there was no appeal. Had section six been entirely omitted from the Act of 1882, a question would have arisen as to whether in relation to the crossing of the Boston & Albany tracks, the same control, as in other cases, rested with the County Commissioners and with the Board of Railroad Commissioners. It would also have been questionable whether, in this case, a decree by the Board of Aldermen of the city of Boston or the Street Commissioners acting as County Commissioners for the county of Suffolk was requisite, as well as a decree by the County Commissioners for the county of Middlesex, in which county the crossing is situated.

To what extent does section 6 solve these questions? What is the meaning of the phrase "and the Board of Railroad Commissioners shall, upon the application of either city or of any railroad corporation, prescribe the details of the crossing and certify to the parties its decision, which decision may be enforced by proper process in equity"?

What are the details of a crossing of a railroad by a highway within the meaning of this section?

One interpretation is that it is the intent of the Act that the city councils of the two cities should determine whether the crossing of the Boston & Albany tracks is to be at grade or overhead or underneath, and that the Board of Railroad Commissioners should prescribe the details of the crossing thus determined upon. The other interpretation is that under the Act the city councils of the two cities were to determine at what point the avenue should cross the railroad and that the Board of Railroad Commissioners were to prescribe the details of the crossing at that point, — that is, whether the crossing should be at grade or overhead or by a subway, what the head-room should be, etc.

The use of the word "details" seems to be consistent with either of these interpretations. It is a relative term, having a wide or narrow scope according to the context. This context must be studied in order to learn its proper meaning in this connection.

By the first section of the Act of 1882 it appears that the location of the bridge and avenue is to be determined by the city councils of the two cities within the limits of a certain defined district, and subject to the approval of the Board of Harbor and Land Commissioners so far as it affects the harbor. What is the meaning of the term "location"? Does it include the grade as well as the course and width of the avenue? — its elevation as well as its ground plan?

It is a necessary element in the case of the petitioner that the word "location" as used in said section should be construed as including grade. Nevertheless in the first section of the Act of the present year, which Act was passed upon the petition of the city of Cambridge for the purpose of construing the Act of 1882, "to locate" and "to fix the grade" are spoken of as two distinct things. So also in the above-cited order of the City Council of the city of Cambridge passed January 21 of the present year, the phrase "location and grade" is used. On the other hand, in the Public Statutes the word "location" is used as including grade, as referring to position both in a horizontal and in a vertical plane. It is clear that this wider interpretation must be adopted as urged by the counsel for the petitioner, because otherwise there would be no provision in the Act for fixing the grade of the avenue between the bridge and the crossing and between the crossing and the main street.

The counsel for the petitioner further claims that, if the term "location" covers the matter of grade, then it necessarily follows that it must have been intended by the Act of 1882 that the city councils of the two cities should determine the manner of crossing the tracks of the Boston & Albany, whether on a level therewith or over or under them, since such determination would be necessary in order to fix the grade of the avenue in the vicinity of the crossing. This would be a reasonable inference and interpretation were it not that the analogous provisions of the Public Statutes in relation to the laying out of a railroad across a highway or a highway across a railroad require exactly that form of procedure which the counsel for the petitioner claims to be unreasonable.

When a railroad is laid out, one of the first things required is the preparation of a map of the proposed route with a profile thereof on a vertical scale, showing the grades, etc. Taking this map as a basis, the route is then fixed by agreement with the mayor and aldermen of a city or the selectmen of a town or in case of a failure to agree, by order of the Board of Railroad Commissioners. Next come other provisions relating to laying out or locating, and after all these provisions as to location it is provided that no railroad corporation shall take by purchase or otherwise, or enter upon or use, except for making surveys, any land or other property for the construction of its road or any branch or extension thereof until the County Commissioners of the county in which such land or other property is situated, after hearing the parties, have determined the manner in which the railroad shall cross the highways and other ways within such county, nor until it has obtained from the Board of Railroad Commissioners their consent in writing in all cases where the County Commissioners adjudge that public necessity requires a crossing at the same level. [Pub. Stats., chap. 112, §§ 38–41, 85, 88–91, 94, 123.]

There can be no question that the authority given to the County Commissioners to determine the manner in which the railroad shall cross a highway gives them authority to determine whether it shall go over or under or on a level therewith. If their decision does not conform to the plans, or if the Board of Railroad Commissioners refuse approval of a grade crossing, the proposed grades of the railroad must be changed.

Nor does the procedure under the Public Statutes in case a highway is laid out across a railroad support the position taken by the counsel for the petitioner. Under the Public Statutes, when a city or town desires to lay out a way across a railroad, the mayor and aldermen or selectmen thereof are obliged to petition the County Commissioners for permission so to do; and in such case, after due notice to the railroad corporation and hearing all parties interested, the County Commissioners may authorize the city or town to lay out the way "in such manner as not to injure or obstruct the railroad" and in conformity with certain provisions of law in relation to head-room, but even they cannot permit the way to cross at a level with the railroad unless public necessity so requires and unless the Board of Railroad Commissioners also consents thereto in writing. (Pub. Stats., chap. 112, § 125.)

Therefore under the Public Statutes whatever original action relating to grade is taken either by a railroad company in laying out a railroad across a highway or by a city or town in laying out a public way across a railroad, such action is provisional and is subject to such modifications as the decisions of the County Commissioners and of the Board of Railroad Commissioners may render necessary.

It appears, therefore, that, if to the word "details" is given the wider interpretation above suggested, — if, in other words, section six is construed as giving to the Board of Railroad Commissioners the power on petition to determine the manner of the crossing, — such interpretation would not conflict with, but would, more fully than the interpretation claimed by the counsel for the city of Cambridge, harmonize with the procedure under and the theory of the general provisions of law in relation to laying out highways across railroads; and such interpretation seems to this Board to be the reasonable and proper interpretation.

Under the Public Statutes, the County Commissioners upon the petition of the mayor and aldermen of a city determine the manner in which a highway shall cross a railroad. Under the Act of 1882, as thus interpreted, the Board of Railroad Commissioners upon the petition either of the city of Cambridge or of the city of Boston or of the Boston & Albany Railroad is vested with similar power.

The Act was passed eight years ago. No petition was presented to this Board until November, 1889, and it was then found that the city of Cambridge had failed to secure concurrent action by the city of Boston in the matter of location. The much regretted delay in opening the bridge and avenue must not be charged to this Board.

There are several considerations which confirm the interpretation of section 6 which has been adopted by this Board. Suppose that the section had passed the Legislature in the form in which it was reported by the committee; namely, "Said avenue shall not cross at grade any railroad operated by steam, and the Board of Railroad Commissioners shall, upon the application of either city or any railroad corporation, prescribe the details of the crossing and certify to the parties its decision, which decision may be enforced by proper process in equity." It is very clear that a section so framed would have given to this Board the power to determine whether the highway should be carried over or under the railroad and also how high above or how far below. Furthermore, it is clear that the change from "shall not" to "may" did not diminish but did enlarge the authority granted by the statute, and that such change could not operate in any measure to transfer control of the manner of crossing from the Board of Railroad Commissioners to the city authorities.

Again, the provision that this Board is to "certify to the parties its decision, which decision may be enforced by proper process in equity," indicates a decision involving important elements; but, if the Board's decision is not to cover any question as to grade, then no detail of importance is left for the determination of the Board. Under the interpretation given to the Act by the counsel for the petitioner the only details which this Board can prescribe under the present petition would be planking, sign boards and gates, but all of these are already sufficiently covered by the provisions of the General Statutes. (Pub. Stats., chap. 112, §§ 124, 164, 165, 166.) The counsel for the petitioner even claims, though we think erroneously, that the matter of gates for this avenue is governed neither by the provisions of the Act of 1882, nor by those of the Public Statutes, but by the provisions of an Act concerning the Union Railroad Company, Statutes 1853, chapter 151.

Having thus determined the interpretation of the Act of 1882, the effect of chap. 338 of the Acts of the present year must next be considered. Sect. 1 is as follows: —

> Chapter one hundred and fifty-five of the Acts of the year eighteen hundred and eighty-two shall be construed to mean that the city councils of the cities of Boston and Cambridge shall each have power and authority to locate, construct and fix the grade of only such portions of the avenues of approach to the bridge as lie within their respective territories outside the harbor lines of Charles River: and that neither city shall have power or authority beyond the harbor lines of said river either to locate. construct or fix the grade of any portion of said avenues within the territory of the other city.

It is claimed by the remonstrants that this section is unconstitutional, but for the purposes of the question now pending its constitutionality is immaterial. The city of Boston has agreed with the city of Cambridge as to the position of the avenue in a horizontal plane, but has disagreed with the city of Cambridge as to grade. So far then as the position of the avenue in a horizontal plane is concerned, such position has been legally determined whether the concurrence of the city council of the city of Boston is or is not necessary, and we have held that a determination of the place where the avenue is to cross the railroad is the only necessary preliminary to the presentation of this petition.

Whether the section is constitutional, or not, its only effect is to take away from the city of Boston any power to interfere with the city of Cambridge in locating the avenue on its side of the river as it sees fit, and to take away from the city of Cambridge any power to interfere with the city of Boston in locating the avenue on its side of the river as it sees fit. In no event can it be regarded as otherwise changing the powers vested in the respective cities by the Act of 1882, and especially it cannot be considered as affecting in any way the power of the Board of Railroad Commissioners under the Act of 1882.

Section two is as follows: —

> The acts and doings of the city of Cambridge in relation to the location, laying out and construction of the avenue of approach to Harvard Bridge in said city are hereby ratified and confirmed, and made binding upon all parties.

If the power and duty of the Board of Railroad Commissioners are modified in any way by the provisions of the Act of the present year, such modification must be brought about by this section two. The natural interpretation of this section is that the intention was to ratify and confirm the acts of the city of Cambridge so far as the city of Cambridge had authority to act. There is no intimation of an intention to take away from the Harbor and Land Commissioners or from the Railroad Commissioners powers vested in or duties imposed upon such commissioners. By the first section of the Act of 1882, the determination of the location of the bridge and avenue was subject to the approval of the Board of Harbor and Land Commissioners so far as it affected the harbor. The necessity for the approval of the Board of Harbor and Land Commissioners certainly could not be dispensed with by any such general phraseology as that of section two of the Act of the present year.

The case is even stronger with reference to the power of the Board of Railroad Commissioners. The Act of 1882 did not simply make the location of the avenue subject to the approval of the Board of Railroad Commissioners so far as the crossing was concerned, but left it to this Board to prescribe all the details of such crossing. If it had been intended to take away from this Board such an important power and to confer it upon the city council of the city of Cambridge, it should have been directly expressed and not left to uncertain inference. In behalf of the petitioner it is claimed that by the acts and doings of the city of Cambridge which are ratified and confirmed by this section two, the avenue has been laid out and the grade has been established on a level with the railroad, and that this section takes away from the Board of Railroad Commissioners such authority, if any, as they before had to determine the manner in which the highway should cross the railroad. We regard this position as untenable. If the Legislature had desired to establish a crossing at grade, its purpose could and should have been expressed in terms which would have left no room for doubt. An intent to establish a grade crossing is not to be lightly inferred, especially from the Acts of a Legislature which has deemed grade crossings so grave a public nuisance as to justify for their abolition an expenditure by the State of half a million a year for several years to come. Moreover, it is to be noted that in sect. 1 of chap. 338, the phrase "to locate, construct and fix the grade of" is used, thus indicating that the term "locate" does not cover the matter of fixing the grade, whereas in section two the phrase is "the location, laying out and construction of the avenue." Fixing the grade is not specially mentioned in the second section, and, if covered at all in that section, a meaning must be given to the word "location" different from that in the first section, or else grade must be covered under the words "laying out." The terms "location" and "laying out" as used in the Statutes, however, seem to be synonymous. See P. S., chap. 49, §§ 71, 72; chap. 112, §§ 85, 88, 89.

Although this view of the effect of the Act of the present year renders immaterial the question what grade, if any, has been established, the following facts may be stated. In the order of the city council of the city of Cambridge, approved July 20, 1888, in relation to the widening and laying out of Front Street as an approach to the Harvard Bridge, the only reference to the grade is the following: "and the grade thereof is established according to a plan of such widening, extension, and laying out and profile of the grade, made by William S. Barbour, city engineer, dated Nov. 7, 1887, and deposited in his office." The profile of the grade referred to is a plan partly in ink and partly in colored chalk. The ink line indicates grade twenty-one, while the chalk lines, which are wider and more distinct than the ink line, show an overhead crossing with a clear opening of sixteen feet above the rails. It was claimed by the remonstrants that the order, so far as grade is concerned, was void, by reason of uncertainty, but that if any grade were established by the order it was the grade indicated by the chalk lines.

We hold, then, that by the Act of 1882 the city councils of the two cities were authorized by concurrent Act to lay out the avenue within the limits of a described district, such laying out to be subject to the approval of the Harbor and Land Commissioners so far as it affected the harbor, and also to be subject to the limitation that the manner of crossing the railroad should be prescribed by the Board of Railroad Commissioners, and we hold further that chapter 338 of the Acts of the present year has not restricted or modified the power of this Board to determine the details of the crossing.

Although the avenue has simply been filled with gravel to grade twenty-one and the surface has not yet been macadamized or otherwise prepared for travel, we appreciate that it will now be somewhat more expensive for the city of Cambridge to raise the grade of the avenue so as to carry it over the railroad than it would have been had all the work been done in one job. We also appreciate that chapter 338 of the Acts of the present year, if it is held to be constitutional, may give to the owners of the land abutting on the avenue a legal claim for damages caused by raising the grade of the avenue which they would not have had if such Act had not been passed, but neither the failure of the city of Cambridge to proceed in due course, nor the possible effect of the Act of the present year in establishing claims for damages, can justify the Board in giving its approval to a crossing by this avenue of the tracks of the Boston & Albany Railroad at grade. Such a course would establish a memorial of folly to abolish which would each year become more difficult, and which every increase in the prosperity and growth of the two cities and in the freight business of the Boston & Albany Railroad would render more notorious.

The Board therefore prescribes the details of the crossing as follows, namely: —

The avenue is to be carried over the railroad, the bridge to be constructed of iron and to be at a height of not less than sixteen feet above the track of the railroad. The bridge is to be of the full width of the avenue with suitable sidewalks conforming to those on the avenue.

GEORGE G. CROCKER,
E. W. KINSLEY,
E. A. STEVENS,
Commissioners.

JULY 19, 1890.

Brief for the Board of Railroad Commissioners.

SUPREME JUDICIAL COURT.

Suffolk, ss. Common Law.

City of Cambridge, Petitioner for Mandamus, *v.* Board of Railroad Commissioners et als. City of Cambridge, Petitioner for Certiorari, *v.* Board of Railroad Commissioners.

It is not the duty of the Attorney-General to appear in behalf of the Board in the pending proceedings. (Pub. Stats., Ch. 17; Pub. Stats., Ch. 112.)

Neither has the Board any funds subject to its control adequate in amount for or applicable to the employment of counsel. The respondent Board therefore appears without counsel.

These proceedings do not simply affect the parties to the record. Upon the issue depend the safety and convenience of the general public, so far as it may have occasion to use the avenue in question. The Commonwealth also is affected pecuniarily. Under the act for the abolition of grade crossings, passed by the Legislature of the present year (Stat. 1890, Ch. 428), the Commonwealth has undertaken to pay from twenty-five to thirty-five per cent. of the total cost, including land damages, of abolishing any grade crossing established prior to the passage of the act. The city of Cambridge claims as its fundamental contention that prior to the passage of said act the avenue in question was legally laid out across the tracks of the Boston & Albany Railroad at the same grade.

The pecuniary interests of the city of Cambridge are therefore, in this matter, antagonistic to the pecuniary interests of the Commonwealth.

The city of Cambridge, the city of Boston and the Boston & Albany Railroad are in court with able counsel to protect their own interests. They are not here to protect the interests of the Commonwealth. The interests of neither are identical with those of the Commonwealth.

By Public Statutes, chapter 17, section 3, the Attorney-General is authorized to "appear for the Commonwealth in the supreme judicial court in the trial and argument of all causes criminal or civil, in which the Commonwealth is a party, or interested, and in such causes in any other court or tribunal, when required by the governor or by either branch of the general court." The Commonwealth has not been notified of the pendency of these proceedings. No counsel appears in its behalf, either directly, or indirectly as the representative of the respondent Board.

The city of Cambridge, the petitioner, in order to prevail must sustain all the following propositions: —

First, that Statutes 1882, chapter 155, section 6, did not vest in the Board of Railroad Commissioners the power to determine whether the crossing in question should or should not be at grade, or, if it did vest such power in the Board of Railroad Commissioners, then subsequent statutes took such power away from the Board of Railroad Commissioners, and transferred it to the city of Cambridge.

Second, that by special acts the power to locate the avenue in question across the tracks of the Boston & Albany at grade was vested in the city of Cambridge, the petitioner, and that it did legally so locate said avenue.

Third, that the concurrence of the city of Boston in relation to the manner of crossing the tracks of the Boston & Albany Railroad is not necessary.

Fourth, that the special legislation in this case entirely superseded the provisions of the General Statutes, under which a highway cannot be laid out across a railroad at grade unless the county commissioners adjudge that public necessity so requires, and unless the consent of the Board of Railroad Commissioners thereto is also obtained.

Fifth, that, upon the petition of the city of Cambridge to the Board of Railroad Commissioners, praying said Board to prescribe the details of the crossing in question, said respondent Board has not acted, and that its failure to act has been of such a nature and leads to such consequences that it is necessary as well as proper that the high and extraordinary writ of mandamus should be issued; or that upon said petition the said Board has acted erroneously, and that the petitioner, the city of Cambridge, is injured thereby, and has no remedy except through a writ of certiorari.

The respondent Board refers to its decision on the petition of the mayor of Cambridge, being Exhibit A annexed to the report (page 26*a*), for a general statement of the reasons which governed it in determining the extent of its jurisdiction, and submits herewith a more definite statement in relation to some of the considerations referred to in said decision.

First Point.

The interpretation that Statute 1882, chapter 155, section 6, did not vest in the Board of Railroad Commissioners, but did vest in the city of Cambridge, either alone or concurrently with the city of Boston, the power of determining whether the crossing in question should be at grade, at first sight seems reasonable; but an examination of the results which would follow from such interpretation shows that it must be rejected as unreasonable, if not absurd.

The petition of the city of Cambridge to the respondent Board prayed said Board "to prescribe the details of the crossing at Front Street, over the tracks of the Boston & Albany Railroad," and to certify its decision thereon in accordance with the provisions of section 6 of chapter 155 of the Acts of the year 1882. Under this petition it became necessary for the Board to determine what were the details of the crossing, within the meaning of said section. The city of Cambridge claimed that the Board of Railroad Commissioners had, under said section, no authority to pass upon the question whether the crossing should or should not be at grade; that a crossing at grade had been legally established, and that the power of the Board extended only to a determination of the details of a crossing at grade. The act lacks definiteness. It is ambiguous. If the interpretation claimed by the city of Cambridge had been adopted, what were the details to be prescribed by the Board? What are the details of a crossing at grade?

No evidence was submitted by the petitioner, bearing upon the character of any detail which it desired to have prescribed. There was not even any mention made of any details which the petitioner desired to have prescribed.

Planking may be considered a detail of a crossing at grade; but the matter of planking is amply and satisfactorily covered by section 124 of chapter 112 of the Public Statutes. In no case within the knowledge of the Board have the provisions of that section proved insufficient or unsatisfactory. It would be a useless waste of words for the Board to prescribe that the Boston & Albany Railroad Company should plank the crossing as it is required by law to plank every crossing.

Sign-boards may be a detail. This subject is also fully and satisfactorily covered by the provisions of the Public Statutes (Pub. Stats., Ch. 112, sect. 164); and, as in the matter of planking, so in the matter of sign-boards, it would be equally useless for the Board to rehabilitate what is already the law.

Cattle-guards may be a detail. This subject is also covered by the Public Statutes, chapter 112, section 115. The fact that the matters of planking, sign-boards and cattle-guards were at the time of the passage of the act covered, and covered satisfactorily, by the provisions of the Public Statutes, is a reason for inferring that they were not details contemplated by the Legislature under the provisions of said section 6. No reason can be assigned for special legislation covering these matters in the case of the crossing in question. These are not matters calling for special legislation. The respondent Board would not have been justified in holding that said section superseded the provisions of the Public Statutes, and that said Board could prescribe, for instance, that sign-boards should be altogether omitted.

The only other matter, so far as known to the Board, which could be considered as a detail of a grade crossing, is the matter of gates. In relation to this detail the city of Cambridge claims, as appears from its petition in the pending proceedings, that, by reason of Statutes 1853, chapter 151, and its proceedings thereunder, the respondent Board had no right in the case of the crossing in question to prescribe the form of gates to be used, and that the control of that detail was vested solely in the city of Cambridge. But, had the petitioner claimed that the Board was in duty bound to prescribe details relating to gates, still the Board would have been and is at a loss to discover any detail with reference to gates which it was reasonable or expedient for it to prescribe. The proper form of gates depends largely upon what the nature of the use of an avenue is to be, whether it is to be used for street railway purposes or not, and whether horse or electric power is to be employed if such use is permitted. No evidence upon these points was submitted by the petitioner.

Gates could not have been one of the details contemplated in said section 6, because, had such been the intention, there would have been some authority given to the Board to require that the gates should be properly manned and operated. A gateman or a flagman could hardly be regarded as a detail of a crossing.

Moreover, when the act of 1882 was passed, adequate control in the matter of gates had been for a long time vested in the county commissioners (Pub. Stats., Ch. 112, sect. 166), whose powers extend to the making of " such orders for the erection and maintenance of gates or bars, or the stationing of an agent or flagman, or such alteration of arrangements already existing, as they shall decide that the better security of human life or the convenience of the public travel requires."

So far as known to the Board, there are no matters other than planking, sign-boards, cattle-guards and gates, which, under the interpretation claimed by the petitioner, could have been considered as details of a crossing at grade. No other details have at any time been suggested.

The respondent Board found that, if it adopted the interpretation of the act claimed by the city of Cambridge, it would be obliged to put its order into something like the following shape : —

" Under the Statutes of 1882, chapter 155, section 6, the Board is petitioned to prescribe the details of the crossing of the tracks of the Boston & Albany Railroad by the avenue authorized by said act, which crossing has been established at grade with the railroad. The petitioner did not offer any evidence to show what details should be prescribed, nor did it specify a single detail which it desired the Board to prescribe. On the other hand, it claimed that the matter of gates was not within the jurisdiction of the Board, and requested the Board to take no action in relation thereto. So far as known to this Board, there is no matter which can be considered as a detail of a grade crossing which is not already amply and positively covered by the provisions of the General Statutes. The Board does not deem that the requirements of those statutes are suspended, in the case of this crossing, by the act of 1882. There are, therefore, no details of the crossing in question, assuming it to have been legally established at grade, which it is necessary or expedient for this Board to prescribe; and no details are prescribed."

The provision that the decision of the Board of Railroad Commissioners, relating to the details of the crossing, may be enforced by proper process in equity (Statutes 1882, Ch. 155, sect. 6), indicates that the Legislature had in contemplation more important details than planking, cattle-guards or sign-boards.

The possibility of a crossing at grade is directly suggested in said section 6; and yet it appears that, if the interpretation claimed by the city of Cambridge is adopted, there would be in that contingency no details which it would be necessary or expedient for the Board to prescribe upon the petition of the city of Cambridge. If the petitioner's view of the law is correct, its petition to this Board was not merely unnecessary, — but was useless. All the matters to which, under the interpretation claimed by the city of Cambridge, it could relate, were already amply provided for by general laws. If the city of Cambridge had the right to establish the crossing at grade, the Boston & Albany Railroad Company would, under general provisions of the statutes, have been obliged to take care of the incidentals of the crossing in the same manner as it and every other railroad in the Commonwealth is obliged to do whenever a highway is legally laid out across their tracks at the same level therewith.

Second Point.

If the word "details" is not limited to planking, sign-boards and cattle-guards, it may properly cover the question of grade.

The word "details" may embrace anything less than the whole. Its scope must be determined in each case by the context. In this case it is the proper term to cover the question of grade. A man, having first selected a site for his house, might say to his architect, "I want a house built for my family on that site, and I leave the details of the house to you." So in this case the site, the location of the crossing in a horizontal plane, was to be determined by the city of Cambridge, either alone or concurrently with the city of Boston;

while the details, meaning thereby the manner of crossing, were to be prescribed by the respondent Board. As the architect, in carrying out his commission, would be obliged to consider the size and needs of the family to be provided for, so the Board would be obliged to consider the probable amount and character of the traffic to be accommodated.

Third Point.

To interpret the word "details" as covering grade, thereby giving to the Board of Railroad Commissioners the power to determine whether the crossing in question should be at grade with the railroad, or over or under it, harmonizes with the general course of legislation in reference to crossings of railroads by highways.

Under our general laws, the mayor and aldermen of a city or the selectmen of a town cannot lay out a public way across a railroad in any manner, unless the county commissioners adjudge that public convenience and necessity so require, and they cannot lay out a way across a railroad on a level therewith unless the county commissioners make special adjudication that public necessity so requires, and unless the Board of Railroad Commissioners consents thereto in writing. (Pub. Stats., Ch. 112, sect. 125.)

If the proposed method of crossing the railroad does not meet with the approval of the county commissioners, the grade of the way at the crossing must be changed to conform to such views; and it necessarily follows that the grade of the approaches to the crossing must also be changed.

Furthermore, if the county commissioners agree with the city or town authorities that a crossing at the same grade with the railroad is required, still, the location is not valid unless the Board of Railroad Commissioners consents thereto; and if said Board refuses its consent, then also the proposed grades must be changed, both at the crossing and on the approaches thereto, so as to carry the way either over or under the tracks.

It is clear that, if section 6 had been entirely omitted from the act of 1882, the avenue could not have been laid out across the tracks of the Boston & Albany Railroad without complying with the law requiring adjudications by the county commissioners and the Board of Railroad Commissioners in relation to the manner of crossing.

The method of procedure marked out in the general statutes should be followed, except in so far as a different method is plainly indicated by special act. The petitioner claims that the act of 1882 not only, by inference, took away from the county commissioners the jurisdiction in relation to the crossing which they would otherwise have had, but also, in spite of the provision that the Board of Railroad Commissioners shall prescribe the details of the crossing, took away from said Board that jurisdiction in relation to crossings vested in it by the general statutes. This is an overstrained inference. If the intent was to legislate as the petitioner claims, the Legislature should not have used a phrase leaving it to implication, but would have distinctly provided as follows: —

The city of Cambridge may lay out said avenue at grade across any railroad operated by steam, without the necessity of any adjudication thereon by the county commissioners or by the Board of Railroad Commissioners.

No positive enactment forming a part of a system of legislation should be considered as repealed by a special act, unless it be by express language or necessary implication. (See Mudge *v.* Wilmot, 109 Mass. 220.)

It was obvious that the pecuniary interests of the city of Cambridge would conflict with the interests of the city of Boston, of the Boston & Albany Railroad, of the public and of the Commonwealth. It is not the policy of our laws to repose the determination of important questions in the hands of those whose pecuniary interests are adverse to the safety and convenience of the public. Nothing but necessity justifies an inference that the Legislature intended to make the city of Cambridge the judge in its own case. To make such an inference violates the whole course and tenor of legislation in relation to grade crossings. To interpret the word "details" as covering grade, gives to the section a meaning consistent with well-established principles of public policy, while the contention of the petitioner violates those principles. When the interpretation of an act is doubtful, that interpretation should be adopted which conforms most nearly to recognized principles of public policy.

Fourth Point.

The interpretation given to section 6 by the respondent Board is supported by the fact that said section, as originally reported to the Legislature, read as follows: —

"Said avenue shall not cross at grade any railroad operated by steam, and the Board of Railroad Commissioners shall, upon the application of either city or any railroad corporation, prescribe the details of the crossing;" etc.

Pending the passage of the act, this section was amended by striking out the words "shall not," and inserting in place thereof the word "may." It is clear that the intent of the act, as originally drawn, was to vest in the Board of Railroad Commissioners the power to determine whether the avenue should be carried over or under the railroad, and what the clearance in either case should be.

The respondent Board claims that the change from "shall not" to "may" simply operated to remove a limitation on its jurisdiction.

In order to support the case for the petitioner, it must be claimed either that the act, as originally reported to the Legislature, would not have given to the Board of Railroad Commissioners the power to determine the manner of crossing, or else that the change from "shall not" to "may," instead of enlarging the authority of the Board, took away from it the authority which it would have possessed, and vested that authority in the city of Cambridge.

Fifth Point.

The power vested in the respondent Board by the act of 1882 was not taken away by Statute 1890, chapter 338, even if said statute is constitutional. The first section simply took away from each city such power, if any, as it had to interfere in the matter of locating, constructing or fixing the grade of any portion of the avenue within the territory of the other city. It did not otherwise in any way enlarge the powers of either city. It certainly did not take away from the respondent Board any power or duty.

The second section reads as follows: —

"The acts and doings of the city of Cambridge in relation to the location, laying out and construction of the avenue of approach to Harvard bridge, in said city, are hereby ratified and confirmed and made binding upon all parties."

The obvious purpose of this section, construed in connection with the first section, is to cure any invalidity of the acts of the city of Cambridge, so far as such invalidity grew out of the failure of the city of Cambridge to secure concurrent action by the city of Boston. There is nothing in this section or in the act to indicate that it was the intent of the act to take away from the respondent Board authority vested in it. Public policy demands that special acts should not be construed as establishing grade crossings by far-fetched inference.

The Legislature of the present year is noted for having taken an advanced position in regard to the desirability of abolishing those grade crossings which now exist. The intent to create a new grade crossing is not to be lightly inferred from its acts.

The position cannot be maintained that one of the chief objects of section 2 was to legalize the grade of the avenue at the crossing, both because there is in the section no reference to the crossing, and also because all reference to the matter of fixing the grade in section 2 is omitted, while it is distinctly specified in section 1.

GEORGE G. CROCKER,
EDWARD W. KINSLEY,
EVERETT A. STEVENS,
Board of Railroad Commissioners.

PETITION OF THE OLD COLONY RAILROAD COMPANY FOR PERMISSION TO CROSS BLUE HILL AVENUE, NEAR MATTAPAN STATION, AT GRADE.

Hearing and view June 28, 1890.

The petition of the road is as follows: —

COMMONWEALTH OF MASSACHUSETTS.

To the Board of Railroad Commissioners.

The Old Colony Railroad Company represents that it desires to locate a branch or extension of its road from the terminus of its Milton branch, so called, in the city of Boston, near Neponset River, through a portion of the city of Boston and a portion of the town of Hyde Park to points on its road near the Clarendon Hills station, so called, upon a route which has been agreed upon by its directors with the mayor and aldermen of the city of Boston and the selectmen of the town of Hyde Park, which route crosses a public highway in Boston known as Blue Hill Avenue, and that the board of aldermen of the city of Boston, acting as county commissioners for the county of Suffolk, upon proper proceedings before them, have adjudged that public necessity requires that it may locate and construct said branch or extension across said Blue Hill Avenue at the same level

Wherefore it asks the Board to consent in writing to such crossing of Blue Hill Avenue at the same level.

OLD COLONY RAILROAD COMPANY,
(Signed) By J. H. BENTON, Jr., *Attorney.*

At the hearing a certified copy of the following order, adopted by the board of aldermen of the city of Boston, acting as county commissioners for the county of Suffolk, was submitted: —

CITY OF BOSTON.

IN BOARD OF ALDERMEN, ACTING AS COUNTY COMMISSIONERS FOR THE COUNTY OF SUFFOLK, June 23, 1890.

Whereas, it appears that the Old Colony Railroad has given the notice required by the order of this Board therein, and required by statute in such case, of a hearing upon its petition presented to the Board on the twenty-sixth day of May, 1890, asking it to determine the manner in which a proposed branch of the present road of said company from the terminus of its Milton branch, so called, in the city of Boston, to points on its road near Clarendon Hills station, so called, upon a route which has been agreed upon by the mayor and aldermen of Boston with its directors, shall cross the highway and other ways in said county; and a hearing having been had on such petition, and all parties desiring to be heard having been heard, and it appearing that Blue Hill Avenue is the only highway or other way to be crossed by said proposed branch in the city of Boston: —

It is ordered, adjudged and decreed that public necessity requires that the Old Colony Railroad Company locate and construct said branch of its road across Blue Hill Avenue in the city of Boston, at the same level therewith, and said corporation is specially authorized and required to construct its said branch across Blue Hill Avenue, in the following manner, that is to say, at the present grade, or not to exceed one foot above the present grade of said street, and shall pay all expenses incurred in any changing of the grade of said avenue.

The Board does also adjudge and decree that the above crossing shall be constructed and completed in the manner above prescribed within one year from the time the location of said branch is filed, and that the Old Colony Railroad Company shall give to the city of Boston an agreement that it will faithfully comply with the requirements of this decree to the acceptance of this Board, and will indemnify the city of Boston against all damages and charges by reason of any failure so to do; and the delivery of such agreement to the city clerk of the city of Boston in its behalf shall be security satisfactory to the Board, according to the statute in such case made and provided.

In Board of Aldermen, June 23, 1890.

Passed. E. U. Curtis, *City Clerk.*

A true copy. Attest:

(Signed) John T. Priest,
Assistant City Clerk.

Subsequent to the hearing, this Board was notified that the foregoing order of the board of aldermen had failed to receive the approval of His Honor the mayor, as appears from the following attested copy: —

City of Boston, Executive Department.

The Honorable the Board of Aldermen.

Gentlemen: — The order and decree of your honorable Board, acting as county commissioners, and permitting the Old Colony Railroad to cross Blue Hill Avenue at grade, is herewith returned without my signature. On June 9 your honorable Board resolved in substance that Harvard bridge should not be opened until the grade crossing near the Cambridge end of the bridge was removed. This resolution received my approval. You are aware also that the Commonwealth is considering the propriety of doing away with all grade crossings, and of taxing the people heavily for that purpose. This course is to be commended. In view of these facts, it is hardly legitimate for the city of Boston to let one of its great highways be crossed by a railroad at grade, and to grant a permit to that effect. The point at which the Old Colony Railroad wishes to cross Blue Hill Avenue is the crossing of three streets, and the seat of the Mattapan post office. At such a point a railroad track should be beyond the reach of teams and pedestrians.

Respectfully,

Thomas N. Hart, *Mayor.*

July 3, 1890.

A true copy. Attest:

(Signed) John T. Priest,
Assistant City Clerk.

The Old Colony Railroad Company claims that, inasmuch as the board of aldermen is in this case acting in the capacity of county commissioners under the provisions of Public Statutes, chapter 22, section 30, the approval of its order by His Honor the mayor is not necessary, and that his veto is therefore without effect; and said company contends that the board of aldermen, acting as county commissioners, having adjudged that public necessity requires that said company should locate and construct its road across Blue Hill Avenue at the same level therewith, it is the duty of the Board of Railroad Commissioners to act upon the pending petition.

If the Board, upon the merits of the case, approves of the creation of a grade crossing as prayed for, the effect of the action of His Honor the mayor becomes material; but it is immaterial, so far as the final result is concerned, if the Board fails to agree with the board of aldermen in regard to the propriety and necessity of establishing a grade crossing at this point.

The Milton branch of the Old Colony Railroad at present terminates at the Mattapan station, which is on the east side of Blue Hill Avenue, immediately adjoining the bridge by which said avenue is carried over Neponset River. Preliminary proceedings have been taken, as required by law, for an extension of this branch to a point on the Providence division of the Old Colony Railroad, near the Clarendon Hills station, thus completing a loop line between the Kneeland Street and Park Square stations. This extension follows very nearly the boundary line between the city of Boston and the town of Milton, and the city of Boston and the town of Hyde Park, being for a part of the distance in Boston, for a part of the distance in Milton, and for a part of the distance in Hyde Park. The length of this link, including a Y at its connection with the Providence division, is about two and two-third miles.

At the hearing attention was called to the fact that this is the only grade crossing asked for on the proposed new line; that the company has arranged to avoid grade crossings at all the other streets, eleven in number, and that the expense of building the road has thereby been largely increased, the total estimated expense for the two and two-third miles of double-track road being $332,474; or, in other words, $125,000 per mile.

The general manager and the engineer of the company further stated that the expense of avoiding a grade crossing at Blue Hill Avenue would be so great that they had not deemed it expedient even to cause any careful estimate of the same to be made, but that they had no doubt the cost would exceed $100,000, and that they felt confident that the directors would deem it inexpedient to build the road unless this great expense can be avoided; that all passenger trains would undoubtedly stop at this station, that any freight trains would be obliged to run slowly over this portion of the road, and that the surroundings of the crossing were such that the grades could be separated ten years hence as cheaply as now, provided the growth of business on the branch or the increase of population or of business in the vicinity of the crossing should demand that this grade crossing be abolished. In fact, the arguments which are generally advanced in behalf of the creation of grade crossings were advanced in this case, and with unusual force and confidence. An exceptionally strong case was presented.

Frequently a change of the location of a railroad will facilitate the avoidance of a grade crossing; but in this case the Board is satisfied that the best place for a crossing has been selected. The river, the highways running parallel to it and to the railroad, and the highways which from nine directions, five on the north and four on the south, converge to the Blue Hill Avenue bridge, are so situated that to change the location of the railroad, either to the north or to the south, would obviously not decrease, but greatly increase, the expense.

While this is the best place for the crossing, the extraordinary expense of carrying the railroad over the highway is largely due to the fact that at the present terminus on the east side of Blue Hill Avenue there is a freight yard between the passenger tracks and the river. To raise this freight yard will require a heavy outlay, and will render the access to the freight yard less convenient; while to raise the passenger tracks without raising the grade of the freight yard will, on account of the cramped space, necessitate the building of expensive retaining walls.

In accordance with a request of this Board, the engineer of the company made an estimate as to the cost of raising the passenger tracks and leaving the freight yard at its present level, and his estimate as submitted was $113,575. It is probable that in actual construction expedients would be devised which would bring the cost materially below the estimate thus made. A hasty estimate also justifies the hope that it will prove less expensive, and it certainly would be better for the vicinity and for the public using Blue Hill Avenue, to carry that avenue over the railroad rather than to carry the railroad over the avenue. Not only is it more agreeable and safer to go over than to go under railroad tracks, but also it should be borne in mind that, if the railroad is carried over the highway, a continuous mound of earth or masonry must be constructed, which will mar the attractiveness of the surroundings.

But, even on its own showing and taking its own figures, the Old Colony Railroad Company, petitioner, has not, in the opinion of the

Board, presented such a case as would justify the creation of a crossing at grade at this point.

It is a fact that it would cost the railroad company for flagmen for a grade crossing only about $1,200 a year, which would be the interest at four per cent. on $30,000, and that, making due allowance for expenses and the payment of damages in case of accident, the dollar and cent argument is strongly in favor of a crossing at grade. But, while the cost is a consideration on one side, the convenience and the safety of the public are to be weighed against it on the other. Those who have to pay the bills naturally think a great deal about the cost, and are apt to think too little in regard to the safety and convenience of the public. The cost is a definite consideration, upon which it is easy to put a value. The convenience and safety of the public is an indefinite but very important consideration, upon which it is difficult to place a value.

The statutes clearly state that nothing but "public necessity" is a sufficient excuse for the creation of a new crossing at grade (Public Statutes, chapter 112, sections 123 and 125). For many years it has been provided by law that no such crossing shall be established unless the county commissioners adjudge that public necessity so requires, and unless the Board of Railroad Commissioners consents thereto in writing. This year the Legislature has gone further, and, in proof of the sincerity of its conviction that grade crossings are a public calamity, and that those which now exist ought to be abolished with the utmost rapidity, it has passed a law under which the State assumes the payment of from twenty-five to thirty-five per cent. of the cost to be incurred in such abolition.

Not only law but experience teaches this Board that its power to authorize grade crossings should only be exercised with extreme conservatism.

The vicinity of this Mattapan station is desirable for dwellings. A rapid growth of population and of business will undoubtedly follow the completion of the loop line. The fact that the travel from five directions on one side and from four directions on the other converges to and passes over this portion of Blue Hill Avenue, indicates that the volume of such travel will rapidly increase in the future. A public necessity for a grade crossing over such an avenue and in such a vicinity within seven miles of city hall is not in our opinion established by proof that it would cost $113,000 to separate the grades.

It is true that, if the Old Colony Railroad Company should judiciously expend for the abolition of grade crossings in other places a like amount of money, the safety and convenience of the public would be more largely promoted thereby than if the whole amount is expended for this Blue Hill Avenue crossing alone. It is not, however, within the province of this Board to trade in grade crossings, and it could not enforce any trade which might be entered into. This case must be settled by itself in the light of the present times and of present legislation.

In the act of the present year the Legislature has in a measure condoned the past by providing that the Commonwealth shall pay a portion of the expense of abolishing all grade crossings created before the passage of the act; but it is expressly stated that the Commonwealth will pay no portion of the expense of abolishing any grade crossing created after the passage of the act. A crossing at grade, therefore, which is now established, will stand before the public more hopeless of remedy than any of its fellows.

The prayer of the petitioner is not granted.

The decision which the Board has reached upon the merits of the case renders it unnecessary to express any opinion upon the question as to the effect of the action of His Honor the mayor in returning the order of the board of aldermen without his signature.

GEORGE G. CROCKER,
EDWARD W. KINSLEY,
EVERETT A. STEVENS,
Commissioners.

Aug. 2, 1890.

Grade Crossings of Highways by Tracks for Private Use.

The Board has consented to grade crossings of highways and streets by tracks for private use in the following cases: —

On the petition of the Lowell Gas-light Company, —

Voted, That the Board hereby consents that the Lowell Gas-light Company may extend a track for private use, to be operated by steam power, across School Street in the city of Lowell, at a level therewith, as authorized by the board of aldermen of said city and by the county commissioners of Middlesex County; it being agreed by the petitioners that whenever a train crosses said street a flagman shall display a flag as a warning to travellers on the street, and that no train shall pass over said crossing at a speed greater than four miles an hour.

Feb. 13, 1890.

On the petition of L. J. Follett & Sons, —

Ordered, That the Board hereby consents that L. J. Follett & Sons may construct a railroad track for private use across a highway in the town of Adams, known as Columbia Street, and across the tracks of the Hoosac Valley Street Railway in said street, at a level therewith, as the same has been authorized by the county commissioners of Berkshire County, subject to the conditions set forth in the order of the selectmen of Adams, dated April 9, 1890, granting permission to the petitioners to use steam power in the operation of their tracks.

May 21, 1890.

On the petition of G. F. & E. C. Swift, —

Ordered, That the Board consents that G. F. & E. C. Swift may construct and operate a railroad track for private use across the old county road leading from Marlborough to Concord, at a level therewith: *provided*, that no train shall cross said highway at a speed greater than five miles an hour, and that a flagman shall guard the crossing at the approach of every train.

May 21, 1890.

On the petition of George H. Buck, —

Ordered, That the consent of the Board is hereby given for the construction of a railroad track for private use across the town way called Spruce Street in the city of Chelsea, at a level therewith, as authorized by the county commissioners of Middlesex County: *provided*, and on condition, that trains shall not be run over said crossing at a speed greater than four miles an hour, and that a flagman shall display a flag at the approach and passage of every such train.*

June 10, 1890.

On the petition of M. J. Tourtellott and others, —

Ordered, That the consent of the Board is hereby given for the construction of a railroad track for private use across a highway in the town of New Salem, leading from North Dana to Athol, and across the highway leading from the depot of the Boston & Albany Railroad to the village of New Salem at two points, as authorized by the selectmen of New Salem and the county commissioners of Franklin County: *provided*, and on condition, that trains shall not be run over said crossings at a speed greater than six miles an hour, and that a flagman shall display a flag at the approach and passage of every train.

June 10, 1890.

On the application of the Boston & Albany Railroad Company, —

Ordered, That the Board hereby consents that the Boston & Albany Railroad Company may operate a track now laid across

---

* This consent was given after the passage of chapter 382 of the Acts of 1890, authorizing the Board to impose conditions in relation to the use of such crossings.

Brookline Avenue, at grade, for the purpose of filling a portion of the Back Bay Park, as authorized by the board of aldermen of the city of Boston: *provided*, that a flagman shall display a flag to give warning to travellers on said avenue whenever a train or engine is about to pass over the crossing; and *provided*, *also*, that the track shall be removed from said avenue upon the completion of the filling contemplated in the order of the board of aldermen.

SEPT. 22, 1890.

In the matter of the application of the county commissioners of Plymouth County for the consent of the Board to the construction of a track for private use across a highway in the town of Hanover, at grade, after a view of the premises, a hearing and a full consideration of the case, the Board finds that there does not appear to be such necessity for a grade crossing at that place as would justify its consent thereto. Consent is therefore refused.

OCT. 28, 1890.

THE ABOLITION OF GRADE CROSSINGS.

A circular letter of inquiry having been addressed to each company, asking what action, if any, it has taken under Statutes 1890, chapter 428, being an act to promote the abolition of grade crossings, the following replies have been received: —

Boston & Albany Railroad.

"Petitions have been filed by the railroad company for the abolition of twenty-six grade crossings on the main line.

"In two cases, one in the town of Palmer and one in the town of Monson, decrees have been made abolishing the crossings at grade.

"In eight other cases, hearings before the special commissions have been appointed, but have not yet taken place.

"In one case the hearing has not yet been fixed."

Boston & Maine Railroad.

"No action whatever has been taken by this company under the statute referred to."

Boston, Revere Beach & Lynn Railroad.

"No action under that act has been taken by the company."

Connecticut River Railroad.

"Negotiations have been in progress for some time between the town of Greenfield, the Fitchburg Railroad and this company, looking toward a change of the Clay Hill Street grade crossing at Greenfield station. This matter is at present at a stand-still.

"We have also had some correspondence relative to a change in the grades of the highway crossing at Chicopee Junction station, and the Bridge Street crossing at Northampton, but no definite action has as yet been taken in either case."

Fitchburg Railroad.

"Up to the present time no work has been done by this company to abolish grade crossings. Proceedings have been commenced, however, to abolish the crossing immediately east of the passenger depot at Greenfield, and notice has been received in proceedings to abolish nine crossings in the city of Worcester."

Housatonic Railroad.

"This company has taken no action up to this date, under Statutes 1890, chapter 428, with reference to the abolition of any of the grade crossings on the line of this road in the State of Massachusetts."

New London Northern Railroad.

"No formal action has been taken by this company under the act of 1890 'to promote the abolition of grade crossings.'

"Negotiations are pending with the selectmen of Belchertown in regard to the abolition, under the 9th section of that act, of a grade crossing in that town known as the Leach crossing, where the highway is crossed by the New London Northern and the Massachusetts Central railroads, not many feet apart. The selectmen have been informed that this company is ready to agree with them in accordance with the provisions of that section. Some question has arisen, I believe, about the action of the Massachusetts Central Railroad Company, which has delayed the proceedings, as the railroads are so near each other that the change cannot be made as to one of them alone."

New York & New England Railroad.

"The only action taken by this company has been to make an application to the superior court of Norfolk County for the appointment of commissioners to consider the question of eliminating one grade crossing in the town of Norwood; the town having applied to the court for the abolition of three grade crossings, this company asked that the elimination of the only other grade crossing in the town might be considered at the same time.

"The interests of this company are affected somewhat by the application of the cities of Springfield and Worcester under the act referred to, but I do not understand your letter to ask for anything except what action was taken by this company."

New York, New Haven & Hartford Railroad.

"This company has not instituted any proceedings under chapter 428 of Acts of 1890. The selectmen of Westfield petitioned under that act for the abolition of the grade crossings of Chapel, Thomas, Main and Silver streets in that town, this company not objecting to the proposed changes."

Old Colony Railroad.

"The following petitions have been filed, and are now pending: —

"1. To abolish crossing of Tremont Street in Boston.
"2. To abolish crossing of Washington Street (at Forest Hills), Boston.
"3. To abolish crossing of Howard Street, Brockton
"4. To abolish crossing of Little's Hill Road, Marshfield.
"5. To abolish crossing of Elm Street, Braintree.
"6. To abolish crossing of Northborough Road, Southborough.
"7. To abolish crossing of Fisher Crossing, Southborough.
"8. To abolish crossing of Road from Westborough to Marlborough, Southborough.

"It is expected that the last three will be acted upon together, and make an overhead bridge, in place of three level crossings.

"The papers have been prepared for petitions for twelve other crossings, but are not yet filed."

Notice of petitions to the court by the following-named municipalities has been filed in the office of the Board: —

City of Worcester for the abolition of 6 grade crossings.
City of Northampton for the abolition of 7 grade crossings.
City of Springfield for the abolition of 1 grade crossing.
Town of Norwood for the abolition of 2 grade crossings
Town of Greenfield for the abolition of 1 grade crossing.

Proceedings have been commenced for abolishing other grade crossings, of which formal notice has not yet been filed with the Board.

[D.]

EXIGENCY FOR NEW BRANCHES OR EXTENSIONS.

PETITION OF THE OLD COLONY RAILROAD COMPANY FOR A CERTIFICATE OF EXIGENCY FOR AN EXTENSION OF ITS MILTON BRANCH, SO CALLED.

COMMONWEALTH OF MASSACHUSETTS.

To the Board of Railroad Commissioners.

The Old Colony Railroad Company represents that it has finished the construction of its main road and put the same in operation, and desires to build a branch thereof from the terminus of the Milton branch of its road, so called, in Milton, to some point or points on the Providence division of its road at or near Clarendon Hills station, as shown by a plan of said proposed branch herewith submitted, and that public necessity and convenience require the construction of such branch.

Wherefore it applies to you for a certificate that public convenience and necessity require the construction of such branch railroad.

(Signed) OLD COLONY RAILROAD COMPANY,
By CHARLES F. CHOATE,
President.

Filed April 1, 1890.

Hearing April 11, 1890.

For the petitioner, Charles F. Choate, president of the corporation.

No one appeared in remonstrance.

The petitioner presented proof that notice of the hearing had been given, as ordered by the Board.

It appeared that, on the 20th of March, 1890, at a meeting of the directors of the Old Colony Railroad Company, the following vote was passed: —

> *Voted,* That the president, in behalf of the directors, be authorized to apply to the Railroad Commissioners for a "decree of exigency" in regard to the building of a railroad from the terminus of the Milton branch to a point or points on the Boston and Providence Railroad near Clarendon Hills.

The terminus of the Milton branch is in Boston, not in Milton, as set forth in the petition. From this terminus the proposed extension, without crossing the river, runs through a portion of the city of Boston and through the town of Hyde Park, and enters Boston again before reaching a connection with the Providence division of the Old Colony, at a point about two thousand feet northerly from the Clarendon Hills station. It completes a circuit between the Old Colony station in Boston and the station of the Providence division in Boston, and its length is 3.2 miles.

The estimated cost of building this road, avoiding all grade crossings except that one immediately adjoining the present terminus of the Milton branch, is, for a single-track road, $184,547, and for a double-track road $243,474.

An additional track running from this proposed circuit line, and connecting with the Providence division at a point about 1,500 feet southerly of the Clarendon Hills station, is also covered by the petition. The estimate for this additional line, which with the circuit line forms a Y, is for a single track $70,000, and for a double track $80,000, making the total cost of the proposed extension, for a single track, $254,547.1, and for a double track, $333.474.

Mr. James R. Kendrick, general manager of the company, testified that this circuit connection would be of great convenience to the passenger traffic of that section of the road, and that he had been strongly urged at various times to put in such a connection. He further stated that for freight purposes it would also prove a great convenience.

Several citizens residing on and in the vicinity of the proposed line testified in support of its convenience and necessity. No one appeared in remonstrance.

From the evidence which was submitted, and from its own knowledge of the needs of the district and the conveniences which the proposed line would afford, the Board believes and hereby adjudges that public necessity and convenience require the building of the line substantially as set forth in the petition.

By the Board,

GEORGE G. CROCKER,
Chairman.

April 24, 1890.

Commonwealth of Massachusetts.

In Board of Railroad Commissioners, April 24, 1890.

By order of the Board of Railroad Commissioners, I, the undersigned, clerk of said Board, hereby certify that, on the petition of the Old Colony Railroad Company, after due notice and a public hearing, at which the petitioner and other parties interested were heard and no person appeared to object, the Board finds that public convenience and necessity require the construction of a branch or extension of the railroad of said company from the terminus of its Milton branch, so called, in the city of Boston near Neponset River, through a portion of said city and the town of Hyde Park to some point or points on the Providence division of said company's road near the Clarendon Hills station, as set forth in said petition and shown on a plan herewith submitted.

(Signed) WM. A. CRAFTS,
Clerk.

Petition of the New York & New England Railroad Company for a Certificate of Exigency for a Branch in Norwood and Walpole.

Boston, March 18, 1890.

To the Honorable Board of Railroad Commissioners of the State of Massachusetts: —

The New York & New England Railroad Company respectfully represents that it has finished the construction of its main road, and put the same in operation; that it desires to build a branch or extension thereof from some point on the line of its road in the town of Norwood, and through the towns of Norwood and Walpole, to some point on the line of its road in the town of Walpole, and that its indebtedness will not be thereby increased.

Therefore it hereby applies to you for a certificate that public convenience and necessity require the construction of such proposed branch or extension.

(Signed) New York & New England Railroad Company, by
Charles A. Prince,
General Counsel.

Filed March 20, 1890.

Hearings April 4, 1890, and by adjournment April 10, 1890.

For the petitioner, Charles A. Prince. For remonstrants, Albert E. Pillsbury, representing certain mill owners; S. W. Hatheway, representing property owners in Islington and vicinity; Messrs. John C. Lane and J. J. Feely, representing citizens of Norwood; and the Old Colony Railroad Company appearing by Charles F. Choate, its president.

The proposed branch is a loop on the southeast side of the main line of the New York & New England Railroad, starting from a point in its yard in Norwood, thence running through East Walpole, and joining the main line again at a point about two thousand feet beyond Tilton's station. It passes near Morrill's and Hollingsworth's Mills, and between the buildings of Bird's Mills. The only question raised by the petition is whether public convenience and necessity require the construction of the branch or loop, as proposed. The corporation petitioner presented the following evidence in support of its petition: —

Mr. L. B. Bidwell, chief engineer of the company, submitted a plan of the proposed location, showing the length of the loop to be 3.4 miles, and he estimated the cost of construction at $132,148. His estimates contemplated eleven highway crossings under the railroad, eleven over the railroad, and eleven across the railroad at grade. He further testified that he had for thirty years been familiar with the region through which it is proposed to construct the branch; and that, in his opinion, the freight traffic of the three mills rendered its construction expedient; and that, except for that freight traffic, its construction would not be necessary or expedient.

Mr. Charles Howard, the general manager of the New York & New England Railroad, testified that he entered upon his duties as general manager on the 10th of December, 1889; that since that time he had been urged by a proprietor of one of the mills above mentioned to build a branch to accommodate more fully their freight business, and that such proprietor had then indicated his willingness to give $5,000 toward the expense of building the road. He further stated that he had been informed and believed that his company had been many times in past years urged to build a branch for the accommodation of the freight traffic of these mills; and that, were it not for such freight traffic, the building of the loop would be unnecessary and unwise.

With the exception of these two officials of the New York & New England Railroad Company, not a single witness appeared to support its petition. The unsupported testimony of officials representing the petitioner corporation would under any circumstances be but a frail foundation for the issuance of a certificate that public convenience and necessity require the construction of a railroad. In the present case not only was their testimony unsupported, but it was contradicted by the very parties whose necessities and conveniences were claimed by the petitioner to justify its prayer. The owners of Morrill's, of Hollingsworth's and of Bird's Mills appeared in person or by counsel and objected to the issuance of a certificate of exigency on this petition, on the ground that such action would not promote but would be contrary to their interests and those of the public.

It was claimed by the counsel for the New York & New England Railroad Company that its petition, having been filed with the Board twelve days before the petition of the Old Colony Railroad Company for a conflicting route, should be considered by itself, and should be acted upon just as it would have been if the petition of the Old Colony Railroad Company were not in existence. If this claim were allowed, still the conclusion could not be avoided that the petitioner corporation had failed to present evidence sufficient to prove its case.

The facts in regard to the relative rights of the petitioners, so far as such rights are dependent on priority in time, are as follows: In

1883 the New York & New England Company made a survey of a branch line from Norwood up to Bird's Mills. This line coincided very nearly with the line now proposed, and was designed to do the business of the three mills. The New York & New England Railroad Company never took any steps toward building the branch as surveyed.

In February of the present year the Old Colony Railroad Company began the work of making surveys for the line covered by its petition. Subsequently the engineers of the New York & New England Railroad Company went to work. The exact dates when the work in behalf of each railroad company was begun were not given, but the engineer of the New York & New England Railroad Company testified that when he went to work he found the stakes of the Old Colony Railroad Company had been driven.

The petition of the New York & New England Railroad Company was filed March 20, 1890, being signed in behalf of the company by Charles A. Prince, its counsel. On the next day, March 21, at a meeting of the standing executive and finance committee, being a sub-committee of the board of directors, the action of the counsel of the corporation in presenting the petition was ratified and confirmed. Under the by-laws this committee in the recess of the board has full power to manage and direct the business and affairs of the company in such manner as the committee shall deem for the interests of the company in all cases in which specific action shall not have been taken by the board.

Four days later, on the 25th of March, the directors passed a vote approving of the filing of the petition. At the time when the petition was filed, the engineer of the road had not completed his work in surveying and estimating the cost of the proposed line.

On the 1st of April the directors of the Old Colony Railroad Company voted to present their petition, having before them a completed survey and estimate, dated 27th of March. The petition, signed by the president of the corporation, was filed on the same date.

It appears, therefore, that the New York & New England Railroad Company, having made a survey in 1883, allowed the matter to rest for over six years, and until after the Old Colony Railroad Company had put its engineers at work; when the New York & New England Railroad Company again placed its engineers in the field, and then, without waiting for their final and complete report, presented its petition twelve days in advance of the presentation of the petition of the Old Colony Railroad Company.

Priority in filing its petition under such circumstances cannot be considered as a good basis for superiority, much less for exclusiveness of consideration. Moreover, for various reasons the two petitions should not be considered entirely independently. One reason was given by the counsel of the New York & New England Railroad Company, when, in excuse for the paucity of his evidence, he urged that the pendency of the petition of another railroad for a certificate covering the same district was in itself sufficient to prove a public necessity for the line advocated by him. Another reason is, that the testimony given in opposition to the petition of the New York & New England Railroad does not indicate an absolute, but only a relative, opposition.

The mill owners have for a long time been endeavoring to secure better facilities, and the proposed loop of the New York & New England Railroad would undoubtedly furnish such facilities. Their opposition to the petition of the New York & New England Railroad at the present time is based on their belief that both petitions should not be granted, and that the granting of the petition of the Old Colony Railroad Company would meet their needs and convenience to a greater degree than would the granting of the petition of the New York & New England Railroad Company.

Two railroads should not be built to accommodate the traffic which would be accommodated just as well by one road. One of the main objects of the statute under which this petition is brought was to prevent the building of unnecessary railroads, and especially to guard against the construction of parallel routes, one of which could furnish all the accommodation which could be furnished by two or more.

In the present case both the New York & New England Company and the Old Colony Company claim that public necessity and convenience demand the construction of a new line. Neither company has claimed that the construction of two lines is demanded, or would be expedient. It is necessary, therefore, to determine which proposition most thoroughly fulfils public necessities, and most satisfactorily conduces to the convenience of the passenger and freight traffic of the district.

The petition of the New York & New England Railroad Company is for a loop line mainly designed to do the business of the three mills which have been mentioned. Such is its chief object, as distinctly stated by the two officials of the road who gave their testimony in its support.

The line proposed in the petition of the Old Colony Railroad will, in the opinion of the mill owners, serve their interests as well as, if not better than, the loop line proposed by the New York & New England Railroad Company, and it has the further advantage that it will meet a need long felt in the district; namely, the need of more convenient and adequate means of access from the southern part of Norfolk County to Dedham, the county seat. That this want is a real want was evidenced by the large attendance at the hearing on the petition of the Old Colony Railroad Company, and by the unanimous expression of opinion by citizens of North Attleborough, of Wrentham, of Foxborough, of Walpole, of Norwood and of Dedham, that they were desirous to have the proposed Old Colony extension through Walpole to Dedham constructed, and that they were opposed to any petition of the New York & New England Railroad Company which would conflict therewith.

It appears, then, that the freight business of the mills would be transacted as well by the Old Colony as by the New York & New England Railroad, and that the proposed route of the Old Colony would accommodate a considerable passenger business in addition, which the proposed route of the New York & New England Railroad Company would fail to accommodate at all.

For many years and on many occasions the people of the southern portion of Norfolk County have urged the necessity of better facilities for reaching the county seat. In December, 1887, the Board gave a hearing upon the complaint of W. R. Guild and others *v.* New York & New England Railroad Company for such facilities. In that case the petitioners averred that the New York & New England Railroad Company, had title to a right of way formerly a part of the Norfolk County Railroad, extending from the main line of their railroad at Islington station, to Dedham village, originally acquired by right of eminent domain, and that formerly passenger trains were run regularly over such right of way; also that passenger trains were at one time run regularly from a point on the New York & New England Railroad called Dedham Junction to Dedham, and that the trains on both these lines had been discontinued.

They further stated that public convenience and necessity required that the people of Norfolk County should be furnished with convenient means of access to Dedham village, where are situated the county buildings, the courts, the registries of probate and insolvency and of deeds, and various banks, insurance companies, etc.; and they asked that the New York & New England Railroad Corporation be required to run passenger trains from Islington to Dedham over said right of way, or over the route from Dedham Junction to Dedham.

It appeared in that case that in 1846 a charter was granted to the Walpole Railroad Company to construct and maintain a railroad from Dedham to Walpole. This line was subsequently consolidated with the Norfolk County Railroad, forming a continuous line from Dedham to Blackstone. About the year 1866, after a checkered career, the operation of the portion between Islington and Dedham was discontinued. Subsequently this portion was again operated by the New

York & New England Railroad, but it proved unprofitable, and the tracks were taken up.

The officers of the New York & New England Railroad Company, at the time of the hearing in 1887, claimed that neither of the aforesaid branches to Dedham could be run without loss. The Board called attention to the fact that a grant of franchises generally imposed burdens as well as conferred privileges; and that it was the duty of the New York & New England Railroad to put the branch from Islington to Dedham in suitable condition, and to operate the same. The New York & New England Railroad Company has failed to comply with this recommendation; but, as a substitute therefor, has since put into operation the branch from Dedham Junction to Dedham, above referred to.

The proposed route of the Old Colony Railroad extension follows the line of this Norfolk County Railroad from Islington station to Dedham; so that the Old Colony now proposes not only to accommodate the business of the mills, but also to build and operate a line from Islington to Dedham, which the New York & New England Railroad Company has for many years neglected to operate, as it was in duty bound to do.

So far, then, as this portion of the proposed line of the Old Colony Railroad is concerned, the claim made by the counsel for the New York & New England Railroad, that the Old Colony is seeking to invade the district which belongs to it, has little force.

It is true that the proposed route of the Old Colony will interfere with the passenger business of the New York & New England Railroad from Norwood; but the New York & New England Railroad cannot maintain the position that it is free from the charge of neglect with reference to this passenger traffic. The Norwood Central station has for years been entirely unfit for the business to be accommodated.

In 1887 the ladies of Norwood petitioned the Board for better accommodations; and the Board recommended, on Oct. 24, 1887, that a $2,000 station should be built, and expressed the opinion that the expenditure of that sum was not only demanded in the interest of the public, but would prove to be a judicious outlay for the company. The station has not yet been built, and the excuse given by the company is that some of the citizens of Norwood desire a better station than could be built for $2,000, and have expressed their willingness to contribute something for the purpose; and that the delay has been caused by the fact that the railroad company and the contributors to the fund have not yet been able to come to an agreement as to the plans of the proposed station. While these negotiations have been pending, the people of Norwood have failed to receive adequate accommodations.

It is also undoubtedly true that the building of the line proposed by the Old Colony will take away from the New York & New England Railroad most of the freight business of the mills above referred to. It appeared in evidence that the New York & New England Railroad now carries about two-thirds of the freight of these mills, and the Old Colony Railroad about one-third. The estimated total revenue for business done over the New York & New England Railroad by these mills during the year 1889 was $23,087.06.

If the Old Colony is granted authority to build its proposed line, the New York & New England will undoubtedly lose a large part of this business. On the other hand, if the New York & New England Railroad is authorized to build its loop, the Old Colony Railroad will with equal certainty lose that portion of the business of the mills which has hitherto come to it, or about half as much as the New York & New England would lose.

It is clear, therefore, that, if the petition of the Old Colony is granted, the New York & New England Railroad will suffer in loss of revenue more than the Old Colony Railroad would suffer in case the petition of the New York & New England Railroad should be granted. The Board would not take action which would lead to such a result, were it not convinced beyond a reasonable doubt that public necessity and convenience would be much better subserved by the building of the line proposed by the Old Colony than by the building of the line proposed by the New York & New England Railroad Company. On this point not only is the sentiment of the district unanimous, but it is clear, from a study of the situation, that such must be the case.

It is therefore adjudged that the public convenience and necessity do not require the building of the line as proposed in this petition.

The Board of Railroad Commissioners,

By GEORGE G. CROCKER,
Chairman.

April 28, 1890.

Petition of the Old Colony Railroad Company for a Certificate of Exigency for an Extension of its Wrentham Branch.

Commonwealth of Massachusetts.

To the Board of Railroad Commissioners.

The Old Colony Railroad Company respectfully represents that it has finished the construction of its main road, and put the same in operation; that it desires to build a branch or extension thereof from some point on its railroad in Walpole, and thence through the towns of Walpole, Norwood and Dedham, to a connection with the Dedham and West Roxbury branches of its railroad, in the town of Dedham, substantially in accordance with the plan herewith presented; and that its indebtedness will not be thereby increased.

Therefore it hereby applies to your Board for a certificate that public convenience and necessity require the construction of such proposed branch or extension.

(Signed) OLD COLONY RAILROAD COMPANY,
By CHARLES F. CHOATE, *President.*

Boston, Mass., April, 1890.

Filed April 1, 1890.

Hearing Monday, April 14, 1890.

For the petitioner, Josiah H. Benton. The following also appeared in aid of the petition: Frederick H. Williams, presenting the petitions of citizens of Foxborough, Walpole and Wrentham; F. B. Byram, presenting the petitions of citizens of North Attleborough and Plainville; John C. Lane, presenting petitions of citizens of Norwood; and J. J. Feely, presenting petitions from Norwood.

Remonstrant, the New York & New England Railroad Company, represented by Charles A. Prince.

The petitioner presented proof that notice of the hearing had been given, as ordered by the Board.

It appeared that, at a meeting of the directors of the Old Colony Railroad Company, held in Boston on the first day of April, 1890, it was —

" *Voted*, that the president be directed to apply to the Railroad Commissioners for a decree of exigency in favor of building a railroad between Walpole and Dedham."

The proposed line connects at its northerly end with the Providence division of the Old Colony at Dedham, and at its southerly end with the road now being built from North Attleborough to Walpole, thus making a continuous line from Boston to North Attleborough via the Dedham Branch of the Providence Division. From Dedham to Islington the route corresponds very nearly with a portion of the original Norfolk county road as located about forty years ago, and from time to time, but not now, operated.

The length of the route proposed is ten and one-half miles, and the estimated cost thereof, including right of way and damages, is $478,331.32, or about $45,000 per mile.

The sentiment of the residents in the section which this road would serve is apparently unanimous in favor of its being built. Many residents of Attleborough, of Wrentham, of Foxborough, of Walpole and of Dedham, appeared and testified that the proposed line is necessary and would prove convenient, and that a want had long been felt as well as often expressed in that district for better communication between Dedham, the county seat, and the towns in the southern portion of the county.

The following petitions in aid were presented: J. D. Richards and 16 others of North Attleborough; Lincoln, Bacon & Co. and 114 others of Plainville (Wrentham); G. E. Hawes and 400 others of North Attleborough; R. Knapp & Co. and 70 others of North Attleborough; Frank O. Pillsbury and 81 others of Walpole; Geo. F. Wright and 14 others of Walpole; A. F. Bemis Hat Company and 371 others of Foxborough; N. F. Howard and 258 others of Foxborough; Daniel Brown and 147 others of Wrentham; Hiram A. Cowell and 19 others of Wrentham; George H. Morse and 148 others of Norwood; John E. Smith and 89 others of Norwood; Wm. B. Crockett and 19 others of Foxborough; John A. Nowell and 2 others, property owners in Islington; Howard Colburn and 4 others, the selectmen of Dedham; W. T. Tapley and 35 others of Dedham; F. W. Bird and 233 others of East Walpole; O. H. Weed and 33 others of Dedham; David Greenhood and 36 others of Dedham; Simon W. Hatheway and 23 others of Islington; E. P. Stetson and 136 others of Walpole; N. W. Hawes and 78 others of Wrentham; W. D. Whiting and 60 others of North Attleborough; Geo. H. Morrill and 23 others of Norwood; J. J. Feely and 41 others of Norwood; J. Everett Smith and 87 others of Dedham.

At a meeting of business men in Norwood, resolutions in aid were also adopted.

The only remonstrant was the New York & New England Railroad Company. The relative merits of the line proposed to be constructed by that road and of the line proposed in the petition now under consideration are set forth at length in the decision on the petition of the New York & New England Railroad, and need not be repeated here.

The petition of the Old Colony having been supported by abundant testimony to prove the necessity and convenience of the route proposed, and the objections raised by the New York and New England Railroad Company not appearing to be of sufficient weight to justify a refusal to grant the prayer of the petitioners, the Board adjudges that public necessity and convenience require the construction of the branch or extension, as prayed for in this petition.

The Board of Railroad Commissioners,

By GEORGE G. CROCKER,
Chairman.

April 28, 1890.

April 28, 1890.

By order of the Board of Railroad Commissioners, I, the undersigned, clerk of said Board, hereby certify that, on the petition of the Old Colony Railroad Company, after due notice and a public hearing at which the petitioner and other parties interested were heard in support of said petition, and the New York & New England Railroad Company was heard in remonstrance, the Board finds that public convenience and necessity require the construction of an extension of the railroad of said company from its Attleborough & Wrentham branch in the town of Walpole through the towns of Walpole, Norwood and Dedham, to a connection with the Dedham and West Roxbury branches of the railroad of the petitioner in said Dedham, as set forth in the petition, and shown on a map of the proposed route therewith submitted.

WM. A. CRAFTS,
Clerk.

Exigency for a Branch of the Connecticut River Railroad in Holyoke.

May 24, 1890.

By order of the Board of Railroad Commissioners, I, the undersigned, clerk of said Board, hereby certify that, on the petition of the Connecticut River Railroad Company, after due notice and a public hearing, at which the petitioner was heard by its president, and no person appeared to object, the Board finds that public convenience and necessity require the construction of a branch of the petitioner's railroad in the city of Holyoke, commencing at a point in the freight tracks of its main line, about 1,176 feet northerly of the Willimansett bridge, and extending easterly in a curved line of 250 feet radius, 473.26 feet; thence on a tangent line north 46 degrees 56 minutes, east, parallel to the westerly line of Canal Street, 1,442 feet.

WM. A. CRAFTS,
Clerk.

[E.]

STATION AND TRAIN ACCOMMODATION.

Northampton.

The petition of Benjamin E. Cook and others that the Board recommend a change of location of the several railroads in Northampton to the Meadow location, so called, in order to avoid the existing grade crossings in said city.

Hearing at Northampton, Tuesday, April 29, 1890.

For the petitioners, William G. Bassett.

The plan proposed by the petitioners contemplates changing the various lines of railroad from their present location in the centre of the city to the Meadow on the east side of the city, and also contemplates a change in the location of the New York, New Haven & Hartford Railroad, beginning at a point near where it enters the limits of the city of Northampton on the south, so that it shall run in a nearly straight line through the meadow crossing Mill River nearly opposite the end of William Street.

Mr. Eugene E. Davis, civil engineer, submitted a rough plan and estimates of the cost of building the road as proposed, and explained some of the advantages of the plan. Several other gentlemen testified that in their opinion the plan was the best of those which had been proposed for relieving Northampton from the grade-crossing nuisance. A vote of those present having been taken on the question whether they approved the plan proposed, fifty-three voted in the affirmative and sixteen in the negative.

Several gentlemen appeared in opposition to the plan.

The Connecticut River Railroad and the Central Massachusetts Railroad were represented at the hearing, and, while they made no active opposition to the plan, their representatives requested that their silence should not be considered to indicate acquiescence.

The plan as developed is an interesting one, and obviously has many elements of merit. It is one way of entirely avoiding the grade crossings. Whether it is the best way is the problem upon which the Board is asked to give its opinion. Such an opinion should only be expressed after careful survey, and estimates not only covering this plan but also covering the plans for separating the grades without changing the present location of the various roads. There should also be a careful study of the business and other interests involved.

So far as surveys and estimates are concerned, the petitioners presented only a rough plan and general estimates. It was not claimed that these plans and estimates were accurate or definite. No information in relation to the cost of separating the grades on the present locations was furnished except the rough estimates of the grade crossing commissioners made two years ago. Neither set of estimates was carried out in sufficient detail to justify a determination as to the merits of the respective schemes, nor has the Board any appropriation which it could use to employ engineers to furnish the desired information.

The case not having been presented with sufficient detail and completeness, the Board cannot make any recommendation in the premises.

By the Board,

GEORGE G. CROCKER,
Chairman.

April 29, 1890.

Stopping Trains at South Hanson.

On the petition of E. T. Clark and others, residents on the line of the Old Colony Railroad, asking that the 7.45 a.m. train from Plymouth and the 3.40 p.m. train from Boston may be required to stop at South Hanson, a hearing was given April 5, 1890.

After statements by both parties, Mr. Kendrick said that he was willing to stop the 3.40 train from Boston; and, for the reasons given, the Board considered that this was all that could be reasonably asked, and accordingly it was recommended that the 3.40 p.m. train from Boston be stopped at South Hanson.

April 5, 1890.

Petition of the Selectmen of Uxbridge and Others for a Passenger and Freight Station at Jackson's Crossing, so called, in Uxbridge.

Hearing after due notice was given at the town hall at Uxbridge, on Tuesday, October 28, at 10.30 a.m.

At the close of the hearing, Mr. Perkins, in behalf of the New York & New England Railroad Company, stated that in his opinion the railroad company would be willing to establish at Jackson's crossing, or at the new crossing lately substituted therefor, a freight shed covered on top but open at the sides, provided the persons operating the mills in the vicinity of that crossing would be satisfied with such accommodation, and would agree to take care of their freight themselves, without the necessity of any freight agent being stationed there by the railroad company. He stated that this proposition was made upon the faith of the statements made at the hearing that the mill owners, if this arrangement was made, would have their freight come to and go from that point rather than cart it to and from Uxbridge.

At the close of the hearing, the chairman, in behalf of the Board, stated that, if the railroad company carried out the proposition made by Mr. Perkins, it seemed to the Board that the company would be doing all that could reasonably be expected of it, so far as freight was concerned.

Some evidence was submitted to show that it would be more convenient for the residents of Uxbridge to have a passenger station at this (Jackson's) crossing, rather than at Ironstone, where it now is; and Mr. Perkins, in behalf of the company, indicated that the company would be willing to make that change, if duly authorized so to do. The Board, however, held that the question as to the expediency of changing the station from Ironstone to Jackson's crossing was not within the scope of the petition then before it, and that it could at that time make no recommendation in regard to that proposition. The question whether the station could be changed from Ironstone to Jackson's crossing without an act of the Legislature was not considered.

It was further held that the evidence submitted did not justify a recommendation that an additional passenger station should be established at Jackson's crossing, so called.

The Board of Railroad Commissioners,

By GEORGE G. CROCKER,

Oct. 28, 1890. *Chairman.*

PETITION OF GRAUSTEIN BROS., OF CAMBRIDGE, FOR FACILITIES FOR THE TRANSPORTATION OF MILK BETWEEN STILL RIVER STATION, IN HARVARD, AND AYER JUNCTION.

Filed Aug. 18, 1890. Hearing Friday, Sept. 5, 1890.

For petitioner, E. B. Hale; for respondent corporation, James T. Furber, general manager.

The petition is as follows: —

To the Honorable Board of Railroad Commissioners of the State of Massachusetts.

Respectfully represent unto your Honorable Board Carl R. Graustein, Adolph H. Graustein and William A. Graustein, all of Cambridge, co-partners under the firm name and style of Graustein Bros, who humbly complain, allege and state that they are extensively engaged in the purchase and sale of milk; that they buy and sell large quantities of milk, namely, about six hundred cans per day; that they have a contract for and daily receive from two different stations in the town of Harvard in the county of Worcester, namely, the stations of Still River and Harvard, more than five hundred of said cans per day; that said stations are both on the Worcester, Nashua & Rochester division of the Boston & Maine Railroad; that your complainants have and control a milk car which is hauled from Ayer Junction to Boston by the Fitchburg Railroad; that they have again and again requested said Boston & Maine Railroad to attach said car to the passenger train upon said Worcester, Nashua & Rochester division, and haul the same from said stations in Harvard to connect with said train on the Fitchburg Railroad; that there is no freight train run upon said Worcester, Nashua & Rochester Railroad to which said car can be attached to accommodate your complainants; that said Boston & Maine Railroad are now hauling and for a long time have hauled a milk car, similar to that of your complainants, through the town of Harvard to said Ayer Junction, for Messrs. C. Brigham & Co , milkmen, who are doing a competing business with your complainants, connecting at said Ayer Junction with the milk train for Boston, on which train your complainants' said car is now hauled from said Ayer Junction to Boston; that your complainants are now obliged to transport all of said milk from said stations in Harvard to said Ayer Junction by horses, at great trouble, delay and expense; that your complainants have always been ready and willing, and still are, to pay for the transportation of said car the same proportionate price as is paid by said C. Brigham & Co , and are ready to pay any price that may be determined by your Honorable Board.

Wherefore, your complainants pray that a hearing may be granted them in the premises, and that your Honorable Board will take such action therein as justice may require.

(Signed) GRAUSTEIN BROS.

BOSTON, Aug. 1, 1890.

At the hearing the petitioners presented in aid of their petition a document signed by ninety-seven farmers and other residents of the town of Harvard and vicinity, to the following effect: —

We, the undersigned, farmers and others, of the town of Harvard and vicinity, in the county of Worcester, being interested in the sale of milk, and believing that our interests are prejudiced by the refusal of the Boston & Maine Railroad to transport the milk car of Messrs Graustein Bros. from Still River to Ayer Junction, respectfully pray that your Honorable Board take such action as will compel said corporation to haul said milk car between said points.

It appeared that early in the present year Graustein Bros. entered into various contracts with farmers, to go into effect on the first day of April; that in accordance with such contracts they have been and are now receiving from Harvard and vicinity from five to six hundred cans of milk per day; that, upon making application to the Boston & Maine Railroad for transportation of their milk from Still River, in Harvard, to Boston, they were told that they must deal with Messrs. C. Brigham & Co., who had control of a car running from Sterling Junction to Boston; that from the 1st of April to the 5th of June their milk was transported from Still River to Boston in the car controlled by C. Brigham & Co., upon terms fixed by said firm; that the milk was not cared for and the business in other ways was not transacted to the satisfaction of the complainants, and that on the 5th of June the arrangement with C. Brigham & Co. was terminated; that previous to such termination they had again applied to Mr. Furber, the general manager of the Boston & Maine Railroad, to furnish them with a car for transporting their milk, upon terms similar to those accorded to C. Brigham & Co., and that he refused to do so; that, upon the refusal of the Boston & Maine Railroad to furnish a car, they then tried to negotiate through the Fitchburg Railroad for the transportation of a car between Boston and Still River via Ayer Junction, but, being unsuccessful, they entered into a contract with the Fitchburg Railroad for a car to run between Boston and Ayer Junction for the term of one year, and gave bonds for the faithful performance of their contract; that since they began operations under said contract they have been obliged to transport all their milk to Ayer Junction by wagon, at considerable extra trouble and expense, and to the injury of their milk, owing to the fact that the distance by road from the point where the milk is collected is several miles greater to Ayer Junction than to Still River.

It also appeared that the present arrangement was unnecessarily inconvenient for the farmers, inasmuch as those dwelling at a distance from Ayer Junction were obliged to have their milk ready in some cases two hours earlier than they would be obliged to have it ready if it was put on the cars at Still River.

It further appeared that the amount of milk which since the 1st of April of the present year has been collected in Harvard and vicinity by Graustein Bros. is at least equal to, if it does not exceed, the amount of milk transported by C. Brigham & Co., and that the amounts of both concerns put together would unduly crowd a single car.

If, as represented to the Graustein Bros. at the time when they applied to the Boston & Maine Railroad for the transportation of their milk over that line from Still River to Boston, the firm of C. Brigham & Co. had absolute control of the car in which its milk was being transported, then the Boston & Maine Railroad was clearly wrong in refusing to furnish to Graustein Bros. a car for the transportation of milk from Still River to Boston upon terms similar to those given to C. Brigham & Co.

Every railroad corporation is required to "give to all persons or companies reasonable and equal terms, facilities and accommodations for the transportation of themselves, their agents and servants, and of all merchandise and other property."

If, on the other hand, as stated at the hearing, the Boston & Maine Railroad Company never actually parted with the control of the car in which the milk of C. Brigham & Co. was transported, and if its contract with C. Brigham & Co. did not prevent it from contracting to carry the milk of other parties on said car, then also said Boston & Maine Railroad was clearly wrong in refusing to contract with the Graustein Bros., and in requiring them, if they desired any transportation at all, to negotiate with C. Brigham & Co. therefor.

By the improper refusal of the Boston & Maine Railroad to furnish to the Graustein Bros. facilities equal to those furnished to C. Brigham & Co., said Graustein Bros. were forced to make arrangements with the Fitchburg Railroad for the transportation of their milk over that line from Ayer Junction to Boston; and, having failed on application to secure transportation for their car from Ayer Junction to Still River, they now pray for the interposition of this Board.

The Boston & Maine Railroad is the successor to the rights and duties of the Worcester & Nashua Railroad Company, which was incorporated under Statutes of 1845, chapter 102. Section 5 of that act is as follows: —

> Said corporation may enter, with their railroad, by proper turnouts and switches, upon the Boston & Worcester Railroad, subject to the proviso contained in the second section, upon the Norwich & Worcester Railroad, and the Worcester Branch Railroad, at any convenient point in the town of Worcester, west of the Deep-cut aforesaid; and may use said railroads, or any part thereof, paying therefor such rate of toll or compensation as the Legislature may, from time to time, prescribe, or that may be fixed under the provisions of any general law of this Commonwealth, and complying with such reasonable rules and regulations as may be established by said Boston & Worcester, Norwich & Worcester, and Worcester Branch Railroad Corporations.
>
> And said corporation may, in like manner, and under the same provisions and restrictions, enter with their railroad upon the Fitchburg Railroad, at the place where their road crosses the same: *provided, however*, that said corporation shall not enter upon either of the railroads of said other corporations, in this section mentioned, with any motive power, unless the said road, or either of them, shall refuse to draw over their road, or any part thereof, the cars of said Worcester & Nashua Railroad Company; and then

it shall so enter only upon the road of the corporation so refusing to draw over their road the cars of the Worcester & Nashua Railroad Corporation.

The Worcester & Nashua Railroad Company having been authorized by the foregoing section to enter its road upon and use the railroad of the Fitchburg corporation, the reciprocal right is, by Public Statutes, chapter 112, section 216, given to the Fitchburg Railroad Company to enter its road upon and use the road of the Worcester & Nashua Railroad Company.

By section 217 of said chapter 112 of the Public Statutes, it is provided that, when two corporations are authorized as in section 26, "each to enter with its road upon, unite the same with and use the road of the other, each of them shall at reasonable times and for a reasonable compensation draw over its road the passengers, merchandise and cars of the other, and each of them shall for a reasonable compensation provide upon its road convenient and suitable depot accommodations for the passengers and merchandise of the other corporations passing to and over it, and shall receive and deliver the same in the manner it receives and delivers its own passengers and freight."

This law is explicit and positive, and the Board is of the opinion that it is the duty of the Boston & Maine Railroad, for a reasonable compensation, upon request to transport between Still River and Ayer Junction the milk car of the Fitchburg Railroad now under contract to the Graustein Bros., upon the same trains as, and with facilities and accommodations equal to, those furnished to the car used by C. Brigham & Co.; and the Board also is of the opinion that the Fitchburg Railroad Company is bound, by a due regard for the interests of its customers, to make request therefor.

In behalf of the Boston & Maine Railroad, it was claimed that, if it should attempt to carry out the course here indicated, the delay in taking up and leaving the car would be so great that it could not run its trains in time to make the necessary connections. If such should prove to be the case, the only remedy is to make some other arrangement which will meet the needs of the milk business, and deal reasonably and equally with those engaged therein.

It is in dispute as to what would be a reasonable compensation to the Boston & Maine Railroad for carrying the car between Still River and Ayer Junction. The Boston & Maine Railroad, by its general manager, names ten dollars per day as a reasonable price, and the Graustein Bros. have indicated their willingness to pay five dollars per day.

The Board is of the opinion that the latter sum is a sufficient compensation to the Boston & Maine Railroad, if the car is only to go as far as Still River.

Since the hearing, the Board has been informed that the Graustein Bros. would be willing to pay seven and one-half dollars per day if the car should be run to Stirling Junction. This amount also seems to the Board to be sufficient compensation.

By the Board,

WM. A. CRAFTS,
Clerk.

Nov. 29, 1890.

Winter Transportation Facilities for Hull.

Petition of the selectmen and citizens of Hull for train service to Hull during the winter season.

Petition of the Old Colony Railroad for permission to cease running trains on the Nantasket Beach Railroad from Dec. 1, 1890, to March 31, 1891, under the provisions of section 2 of chapter 43 of the Acts of the year 1888.

Hearing Friday, Nov. 28, 1890, and by adjournment, Dec. 1, Dec. 3, Dec. 20, and Dec. 29, 1890.

For the selectmen and citizens of Hull, B. L. M. Tower; for the Old Colony Railroad, James R. Kendrick, general manager.

In the act entitled, "An Act relating to the Nantasket Beach Railroad," Statutes 1888, chapter 43, provision is made for a lease of that road to the Old Colony Railroad Company, and in the second section of the act occurs the following clause: "but said railroad shall not be required to be operated during the winter season, provided other accommodations are furnished by the corporation in possession of the road to the satisfaction of the Board of Railroad Commissioners, which accommodations such corporation is authorized to furnish."

This provisional exemption from a duty which would otherwise have rested on the corporation was granted because the traffic to and from Hull in the winter had been, and was likely for some time to continue to be, too small to pay operating expenses.

The evidence given at this hearing indicated that the cost of operating the road during the winter would be at least twenty-five dollars per day, and that the gross earnings would not be as much as one-third of that amount. The conditions which gave rise to the exemption therefore continue to exist.

The Legislature has granted the exemption, provided other accommodations satisfactory to this Board are furnished. The other accommodations contemplated must have been some means of conveyance over the highway. The railroad company proposes to transport passengers between Hull and the North Cohasset station by a coach or barge, and undertakes to furnish suitable and sufficient accommodation for all the passengers and their luggage. The Board recognizes the fact that such service will be greatly inferior to the service of trains, both in comfort and in speed, but deems that transportation by a clean, good barge of ample size is as satisfactory as any that can be furnished over the highway.

Service by such a barge, run with reasonable expedition, making one trip each way per day, Sundays excepted, leaving Hull at about 7 A.M., connecting at 8.29 A.M. with train at North Cohasset, due in Boston at 9.12 A.M., and leaving North Cohasset for Hull at 4.44 P.M., or upon the arrival of the 3.50 train from Boston, will be deemed satisfactory accommodations, within the meaning of the statute aforesaid.

By the Board,

GEORGE G. CROCKER,
Chairman.

DEC. 31, 1890.

[F.]

HEATING CARS BY STEAM FROM THE LOCOMOTIVE.

On the 5th of November the Board addressed to the several operating companies a circular containing the questions given below, and received replies as follows, the questions and answers bearing corresponding numbers : —

Questions.

1. During the coming winter, how many of your cars are to be heated by steam from the engine?
2. How many by individual heaters or stoves?
3. What kinds of heaters or stoves are to be used, and how many of each kind?
4. How many cars have been piped for heating by steam from the engine since the report made to this Board a year ago?
5. How many individual heaters or stoves have been purchased during the past year? Specify the kinds, and the number of each kind.
6. How many heaters or stoves have been sold or laid aside during the past year?
7. On or in how many cars, fitted for heating by steam from the locomotive, are individual heaters also to be carried during the coming winter?
8. What system or systems of heating by steam from the locomotive are to be used by your company during the coming winter, and how many cars in each system?
9. How many of your trains will be run without fire in any car of the train? What percentage of the whole number of trains will be so run?

Answers.

Boston & Albany Railroad.

267 cars heated by steam from the engine.
56 cars heated by Baker (37) and Johnson (19) heaters.
Of the 56 cars, 47 are piped under the car for applying steam heat through the train.
2 pay cars heated by stoves, Chilsons.
2 cars No. 83 (on workmen's train) and No. 41 (baggage not used in passenger service), heated by stoves.
1 car (directors', No 225), Martin combination heater.
1 car (dining, No. 224), Baker heater.

329

We have purchased 1 Martin combination heater for our directors' car No. 225.

We use the Martin system of steam heating.
Fitted for steam during the year, 28 cars.
Heaters laid aside during the year, 28.

Boston & Maine Railroad.

1. Three hundred and seventeen.
2. Five hundred and seven.
3. Baker, Johnson and Spear heaters, nearly equally divided.
4. Eighty-five.
5. None.
6. Seventy-six Baker & Johnson heaters, 7 Speare heaters, 2 steel stoves, and 9 wood stoves have been laid aside during the past year.
7. None.
8. Three hundred Sewall system and 17 Kimball.
9. A little more than thirty-eight per cent. of our cars are heated by steam from the locomotive. I cannot tell how many trains these cars will make. The percentage of trains heated by steam from our locomotives will depend altogether upon the number of cars in a train, which varies more or less every day. We have quite a number of cars heated by steam from the locomotive which we keep for spare cars, and place them upon trains as they are wanted.

Boston, Revere Beach & Lynn Railroad.

1. Twenty-seven; all that are used when in service.
2. None.
3. None.
4. Two.
5. None.
6. Have had none to dispose of.
7. None.
8. The Boston, Revere Beach & Lynn system, 27.
9. All trains.

Connecticut River Railroad.

1. Fifty-nine.
2. None.
3. None.
4. Six.
5. None.
6. None.
7. Twenty-eight.
8. Emerson, 59 cars.
9. Ninety-four out of 98.

Fitchburg Railroad.

1. We have 247 cars equipped for steam heat; 14 of our cars, which we propose to use for picnics in the summer-time only, are not equipped to heat with steam.

2. We have 1 car running on a mixed train which we shall heat by stove.
3. Spear, Chilson and Railway King heaters.
4. None.
5. None.
6. Three.
7. One stove in all of our passenger equipment for emergency.
8. Consolidated Car Heating Company's system.
9. All excepting 2 cars on two mixed trains, one running in the State of Massachusetts and one in New York State.

Housatonic Railroad.

1. None.
2. Ninety-three.
3. Seventy-three Baker, 27 Spear, 3 Searles hot-water heaters.
4. None.
5. Two perfected heaters (Baker) and 4 No. 16 Spear heaters.
6. None.
7. None.
8. None.
9. None.

Nashua, Acton & Boston Railroad.

1. None.
2. Eighty-six heaters, 18 stoves.
3. Baker heaters, 84; Johnson heaters, 2; cast and sheet iron stoves, 18.
4. None.
5. One.
6. None.
7. None.
8. None.
9. None.

New London Northern Railroad.

1. Ten passenger, 8 combination and 1 baggage.
2. Five passenger and 1 combination, to be run on mixed train between Miller's Falls and Brattleborough.
3. Three Baker heaters and 2 Spear for the passenger cars, and common stove for the combination.
4. One smoking car and 1 baggage car.
5. None.
6. None.
7. Ten passenger and 8 combination.
8. Sewall system; 10 passenger cars, 8 combination and 1 baggage.
9. All, with the exception of the 6 cars above referred to.

New York, New Haven & Hartford Railroad.

In answer to your various questions, I can only say that we have not adopted any system of heating cars by steam, and I am unable at the present time to state how many of our cars *may be* thus heated during the coming winter. All of our cars used in passenger-train service are heated by Baker and Spear heaters. We have 3 cars piped for steam heating in connection with the Baker heater; but this steam-heating apparatus is not in use, and the cars are heated in the regular way by the Baker heater. During the past year we have purchased 12 Baker heaters and 10 Spear heaters.

The above information applies to the cars used on our different divisions, and I am unable to give you the information for the Northampton division alone, for the reason that any of our cars are liable to be assigned to service on that division.

New York & New England Railroad.

1. One hundred and seventy-eight.
2. Seventy-eight.
3. One hundred and twenty-nine Spear, 8 Jewell, 17 Chilson (78 cars).
4. Four.
5. None.
6. Four.
7. One hundred and forty-seven.
8. One hundred and forty-four New York Safety, 2 Sewall, 4 consolidated, 28 direct steam.
9. Just at present I cannot answer, but, from what the transportation department report, should suppose that there would probably be no solid trains, unless they were the short trains run upon the road within the State, that would be operated entirely by steam heat.

Old Colony Railroad.

1. One hundred and sixty-eight.
2. Three hundred and thirty-one.
3. Johnson, 279; Baker, 2; Thayer, 2; Chilson, 48.
4. Twenty; 2 cars fitted for steam heating have been sold, 1 transferred to construction service, and 1 changed to Johnson.
5. Nineteen Johnson heaters.
6. Baker heaters, 4; Chilson stoves, 37.
7. None.
8. Sewall, 115; Gold, 42; Richards, 11.
9. One hundred and four trains on Providence division; 2 of these, however (steamboat trains), will have Pullman cars attached, with individual heaters. Eighteen other trains on Providence division will have steam heat on all but one or two cars, the exceptions being cars to be left or taken at junction points for or from branch trains.

New York, Providence & Boston Railroad, Worcester Division.

Baggage cars, 8; combination cars, 10; smoking cars, 5; passenger cars, 42; in all, 65 cars, and all heated by steam, and have no other means of being heated.

We use the Sewall couplings on all of our cars.

[G.]

STREET RAILWAYS. — INCREASE OF CAPITAL STOCK, ETC.

On the petition of the Springfield Street Railway Company for authority to increase its capital stock, after a public hearing and an examination of the assets and liabilities of the company, —

Ordered, That the Springfield Street Railway Company is hereby authorized to increase its capital stock by the addition thereto of fifty thousand dollars, the cash received therefor to be used for liquidating the indebtedness of the company incurred for the construction of an extension of its railway, increasing its equipment and purchasing land, and for completing extensions, providing additional equipment, erecting new buildings and other like purposes.

April 2, 1890.

On the petition of the Lowell & Dracut Street Railway Company for authority to increase its capital stock, after a public hearing and an examination of the assets and liabilities of the company, —

Ordered, That the Lowell & Dracut Street Railway Company is hereby authorized to increase its capital stock by the addition thereto of one hundred thousand dollars, the cash received therefor to be used for liquidating the unfunded debt of the company, incurred for the construction of a branch of its railway.

March 31, 1890.

On the petition of the Attleborough, North Attleborough & Wrentham Street Railway Company for authority to increase its capital stock, after a public hearing and an examination of the assets and liabilities of the company, —

Ordered, That the Attleborough, North Attleborough & Wrentham Street Railway Company is hereby authorized to increase its capital stock by the addition thereto of forty-three thousand dollars, the cash received therefor to be used for the purpose of paying the liabilities incurred in the construction of its railway.

On the petition of the same company for approval of the issue of bonds secured by a mortgage of its property, after a public hearing and an examination of the assets and liabilities of the company, —

Voted, That the Board hereby approves of the issue, by the Attleborough, North Attleborough & Wrentham Street Railway Company, of coupon bonds to the amount of fifty thousand dollars, secured by a mortgage of all its property, both real and personal; said bonds to run for a term of twenty years, and to bear interest at the rate of five per centum per annum, the proceeds thereof to be used for the payment of the debt of the company incurred in constructing and equipping its railway.

April 21, 1890.

On May 17, the Board approved of the issue of *registered* instead of *coupon* bonds, the approval to take the place of that given April 21, 1890.

On the petition of the East Side Street Railway Company (of Brockton) for approval of the issue of bonds secured by a mortgage of its property, after a public hearing and an examination of the assets and liabilities of the company, —

Voted, That the Board hereby approves of the issue of coupon bonds by the East Side Street Railway Company to the amount of thirty thousand dollars, secured by a mortgage of all its property, both real and personal; said bonds to run for a term of twenty years, and to bear interest at the rate of five per cent. per annum, the proceeds thereof to be used for the following purposes, viz.: for funding the floating debt of the company; for construction and equipment of an extension on Main Street in Brockton, and an extension to the boundary line of the town of Whitman; and for the purchase of such real and personal property as may be necessary or convenient for operation of the company's railway.

May 1, 1890.

On the petition of the Naumkeag Street Railway Company for approval of the issue of bonds secured by a mortgage of its property, after a public hearing, and an examination of the assets and liabilities of the company, —

Voted, That the Board hereby approves of the issue of coupon bonds by the Naumkeag Street Railway Company to the amount of one million dollars, secured by a mortgage of all its property, both real and personal; said bonds to run for a term of twenty years, and to bear interest at the rate of five per cent. per annum, the proceeds thereof to be used for the following purposes, viz.: providing for the present bonded and floating debt of the company; equipping the entire road with the overhead electric system of motive power; the purchase of cars and additional real estate, and erecting buildings thereon for the company's use.

May 21, 1890.

On the petition of the Plymouth & Kingston Street Railway Company for approval of the issue of mortgage bonds, after a public hearing, and an examination of the assets and liabilities of the company, —

Voted, That the Board hereby approves of the issue of coupon bonds by the Plymouth & Kingston Street Railway Company to the amount of thirty-five thousand dollars, secured by a mortgage of all its property, both real and personal; said bonds running for a term of twenty years, and bearing interest at the rate of five per centum per annum; the proceeds thereof to be used for the following purposes, viz: to provide means for construction and equipment; for funding so much of its floating debt as has been incurred for construction, and the purchase of real and personal estate necessary or convenient for the operation of its railway; for building and equipping branches and extensions; and for the contemplated purchase of additional real and personal property as may be necessary or convenient for the operation of its railway.

May 22, 1890.

On the petition of the Nantucket Electric Street Railway Company for leave to increase its capital stock, and for approval of the issue of bonds secured by a mortgage of its property, after a public hearing, and an examination of the assets and liabilities of the company, it was

Ordered, That the Nantucket Electric Street Railway Company is hereby authorized to increase its capital stock by the addition thereto of twenty thousand dollars, the cash received therefor to be used for the following purposes, viz: building and equipping the railway of said company, and purchasing such real and personal property as may be necessary or convenient for the operation of said railway. And it was also

Voted, That the Board hereby approves of the issue of coupon bonds by the Nantucket Electric Street Railway Company to the amount of sixty thousand dollars, secured by a mortgage of all its property, both real and personal; said bonds to run for a term of twenty years, and to bear interest at the rate of six per centum per annum, the proceeds thereof to be used for the following purposes, viz: building and equipping the railway of said company, and purchasing such real and personal property as may be necessary or convenient for the operation of said railway.

June 3, 1891.

On the petition of the Newburyport & Amesbury Horse Railroad Company for authority to reduce its capital stock, after due notice, a hearing of the petitioner and an examination of the financial condition of said company, . . . the Board, under the provisions of chapter 326 of the Acts of 1890, hereby authorizes the said Newburyport & Amesbury Horse Railroad Company to reduce its capital stock by the amount of forty thousand dollars: *provided*, that in making such reduction no money or other property shall be paid or transferred to the stockholders.

Sept. 11, 1890.

On the petition of the Manet Street Railway Company for authority to increase its capital stock, after a hearing, and an examination of the assets and liabilities of the company, —

Ordered, That the Manet Street Railway Company is hereby authorized to increase its capital stock by the addition of fifteen thousand dollars, the cash received therefor to be used for the following purposes, viz.: the payment of existing debts incurred for construction and equipment of its railway, and providing additional necessary construction and equipment.

Oct. 2, 1890.

On the petition of the Newburyport & Amesbury Horse Railroad Company for approval of the issue of bonds secured by a mortgage of its property, after a public hearing and an examination of the assets and liabilities of the company, and such further investigation as seemed requisite . . . it further appearing that the value of the property of the company, taken at a fair value for railway purposes, and excluding the value of the franchise, equals or exceeds the amount of the capital stock outstanding and the debt, which capital stock, having lately been reduced, now amounts to eighty thousand dollars, and which debt is represented as amounting in round numbers to two hundred and eighteen thousand dollars, of which forty-seven thousand dollars is secured by mortgage, it is

Voted, That the Board hereby approves of the issue of coupon bonds by the Newburyport & Amesbury Horse Railroad Company to the amount of three hundred and fifty thousand dollars, secured by a mortgage of all its property, both real and personal; said bonds to run for a term of twenty years, and to bear interest at the rate of five per centum per annum; the proceeds thereof to be used for the following purposes, viz.: forty-seven thousand dollars of said bonds are to be reserved for and appropriated to the payment of the said indebtedness secured by mortgage. The balance of said issue is to be used to pay the balance of said existing debt of the company; to pay for building an extension of the road on the location granted by the town of Newbury, on High Street from Little's Lane to Parker River bridge; for turnouts; for further equipping the entire road with overhead electric system; for the purchase of cars and of additional real estate, and for the erection of necessary buildings thereon.

Dec. 10, 1890.

On the petition of the Essex Electric Street Railway Company for approval of the issue of bonds secured by a mortgage of its property, after a public hearing and an examination of the assets and liabilities of the company, and such further investigation as seemed requisite: —

Voted, That the Board hereby approves of the issue of coupon bonds by the Essex Electric Street Railway Company to the amount of one hundred thousand dollars, secured by a mortgage of all its property, both real and personal; said bonds to run for a term not exceeding twenty years, and to bear interest at the rate of six per cent. per annum; the proceeds thereof to be used for the following purposes, viz.: three thousand dollars to be reserved and appropriated to the payment of said debt secured by mortgage (of a portion of the real estate of the company); the balance of said issue to be used for the payment of the balance of said existing debt; for completing the electrical equipment of the road, including a power plant and additional rolling stock; and for the purchase of such additional real estate and personal property as may be necessary and convenient for the operation of said railway.

Dec. 10, 1890.

On petition of the Beverly & Danvers Street Railway Company, after a hearing of the parties, it was

Voted, That the Board approves the permission granted by the selectmen of Beverly for the Beverly & Danvers Street Railway Company to enter upon and use with its cars the tracks of the Naumkeag Street Railway Company on Rantoul Street, between Eliot Street and Pleasant Street, in said town of Beverly.

April 2, 1890.

On the petition of the Beverly & Danvers Street Railway Company, after a hearing of the parties, it was

Voted, That the Board hereby approves the permission given by the selectmen of the town of Danvers for the Beverly & Danvers Street Railway Company to enter upon and use with its cars the tracks of the Naumkeag Street Railway Company on High Street, from Water Street to Maple Street, in said town.

July 15, 1890.

On the petition of the East Side Street Railway Company, after a hearing at which no party appeared to object, it was

Voted, That the Board hereby approves the permission given by the board of aldermen of the city of Brockton for the East Side Street Railway Company to enter upon and use with its cars the tracks of the Brockton Street Railway Company on Main Street in said Brockton, between Ward and Crescent streets, agreeably to the terms of agreement between said companies, dated May 27, 1890.

June 13, 1890.

On the petition of the Milford & Hopedale Street Railway Company, after a hearing of the parties interested, it was

Voted, That the consent of the Board is hereby given for the Milford & Hopedale Street Railway Company to cross with its tracks at grade the tracks of the Milford & Woonsocket Railroad on Central Street and Main Street in the town of Milford, agreeably to the provisions of chapter 182 of the Acts of 1890.

July 15, 1890.

On the petition of the Lynn & Boston Railroad Company, after a hearing at which no person appeared to object, it was

Ordered, That permission on the part of this Board is hereby given for the Lynn & Boston Railroad Company to make such underground and surface alterations as may be necessary to establish and maintain the overhead electric system of motive power for its cars in certain streets in the city of Lynn as authorized by the mayor and aldermen of said city by their several orders of June 10, June 24, Aug. 19, and Sept. 2, 1890. Said alterations and the structures to be erected are to conform to the order of the Board dated Oct. 14, 1889, giving permission to make underground and surface alterations in certain other streets in Lynn.

Feb. 14, 1890. — On the petition of the West End Street Railway Company for approval of certain locations of its tracks, granted by the board of aldermen of the city of Boston, after due notice, and a hearing at which no person appeared to object, it was

Voted, That the several locations set forth in the petition are hereby approved.

On the petition of the West End Street Railway Company for approval of certain locations granted by the board of aldermen of Cambridge, after due notice, and a hearing at which no person appeared to object, it was

Voted, That the several locations set forth in the petition are hereby approved.

On the petition of the West End Street Railway Company for leave to erect poles for the support of wires in certain streets in the town of Brookline, it was

Ordered, That the West End Street Railway Company is hereby authorized to make the underground and surface alterations necessary for the erection of poles for the support of wires on Harvard Street between Beacon Street and Boston line, and on Beacon Street between Boston line at St. Mary's Street and Boston line near Chestnut Hill Reservoir.

April 7, 1890. — Locations of tracks of the West End Street Railway, granted by the board of aldermen of Boston, and numbered 35, 36, 37 and 38, were severally approved by the Board.

June 3, 1890. — Locations of West End Street Railway, granted by the board of aldermen of Boston, and numbered 39 and 40, were approved by the Board.

Dec. 4, 1890. — On the petition of Otis D. Dana and others, it was

Voted, That the order of the board of aldermen of Boston, approved by the mayor June 5, 1890, revoking the location granted to the West End Street Railway Company for a double track in East Broadway, between L and Q streets, is hereby approved.

Certificates of compliance with the laws were issued on the Articles of Association for the formation of the following Street Railway Corporations: —

Essex Electric Street Railway Company (Salem), Jan. 31, 1890.
Nantucket Electric Street Railway Company, March 21, 1890.
Manet Street Railway Company (Quincy), April 8, 1890.
Nantucket Beach Street Railway Company, Aug. 1, 1890.
Woronoco Street Railway Company (Westfield), Sept. 6, 1890.
Forest Avenue Street Railway Company (Brockton), Sept. 27, 1890.
Pittsfield Electric Street Railway Company, Oct. 1, 1890.
Whitman Street Railway Company, Oct. 24, 1890.
Whitinsville Street Railway Company (Northbridge), Dec. 3, 1890.

[H.]

TESTS OF THE BRAKE POWER ON ELECTRIC CARS.

The object of these experiments was to determine the distances required to stop an electric car under ordinary circumstances, from various speeds. The experiments were made as follows : One observer with a number of surveying pins was stationed on the step of the rear platform ; two observers with stop watches stood upon the platform ; a fourth gave the signal for the driver to stop. With the car running at a uniform speed, it was necessary to determine, first, the rate of speed ; and second, the distance required to make a stop. At a given signal, the first stop watch was started, and a pin was dropped upon the ground. At the expiration of ten seconds, the observer with this stop watch gave another signal, and stopped his watch. When this signal was given, a second pin was dropped on the ground, the second stop watch was started, and the signal given for the driver to put on the brakes. When the car came to rest, the second stop watch was stopped, and a third pin was dropped. The time required to pass over the distance between the first and second pins showed the rate of speed. The distance between the second and third pins was the length of stop. On February 24, the speed was obtained by measuring the time necessary to pass over the distance between given streets. This method of observation was easy to carry out, but was of course not precise ; and the given lengths of stop are slightly greater than the distances passed over from the time the brakes were actually applied to the wheels, owing to the fact that a fraction of a second was probably lost in giving the signals. When the signal is given from the rear platform, as in every experiment except in the last four on March 17, the brakes should be applied and the pin thrown at the same instant. A fraction of a second is lost, however, in dropping the pin and similarly in ringing the bell, and the time lost by the two observers may not have been the same ; that is to say, the pin may have fallen somewhat earlier or later than the ringing of the bell. The difference in this respect must have been small. Even if the bell is rung at the very instant that the pin is dropped, a fraction of a second will elapse before the driver begins to apply the brakes, and a further loss will occur before the brakes are fully applied. It is therefore probable that the pin reached the ground before the brakes were fully applied.

If we suppose one second to be lost in each stop, then the true length of stop, allowing for this loss, is in each case given in brackets, under the column headed "Remarks." If we suppose the loss to be two seconds in each stop, then the true length of stop, allowing for this loss, is given in double brackets in the same column. It is not by any means probable that more than one second was lost; and, indeed, the fact that the stops in double brackets are in some cases very small, indicates that the allowance of two seconds is much too great.

The table shows a great variation between the different stops. Supposing the friction to be the same, the length of stop should be as the square of the velocity. Really, the friction is less the greater the velocity, so that the length of stop should be somewhat greater than in proportion to the square of the velocity. Yet on page 240 we have, in Experiment 7, a stop in 36 feet at 6.3 miles per hour, and in Experiment 3 a stop in 48 feet at 12.2 miles per hour, instead of a stop in 144 feet, as it would be according to the square of the velocity; or, if the stop in 48 feet be taken as a basis of comparison, the stop from 6 miles an hour should have been made in 12 feet. The grades in these cases were not greatly different. Again, comparing experiments 3 and 6, in which the speed was nearly the same, the stop on the down grade was much better than that on the up grade. Other discrepancies of a similar character will be noticed.

The last four stops on page 241 were in general much better than the others, though Nos. 12 and 1 were about alike, the better stop being No. 1 on a down grade. In these cases, the signal was seen simultaneously by the driver and by the observer who dropped the pins, and the loss of time due to ringing the bell as a signal to the driver was therefore avoided, since both the observer and the driver perceived the signal at the same instant. Besides this, the driver was prepared for the signal, and the slack of his brake chain was probably taken up. In the other experiments there was probably some slack. In comparing these last four experiments with those preceding them, these facts must be allowed for. It is to be observed that, in case an electric car were approaching a person who was in danger of being run over, the driver would generally be prepared, and the last four experiments would more nearly than the others represent the character of the stop which could be made.

DATE.	RUN.							STOP.		Number.	REMARKS.
	Going	From	To	Grade Approx. (Feet.)	Distance. (Feet.)	Time. (Seconds.)	Speed. (Miles per Hour.)	Time. (Seconds.)	Distance. (Feet.)		
1890. Feb. 24,	South,	Waltham Street, .	Union Park Street, .	0.4 in 100 down.	260	27.2	6.5	10	106	1	*Snowing,—much Snow on Ground.* Signal to stop given by bell from rear platform. [96] [[86]]
Feb. 24,	South,	West Canton Street, .	West Brookline Street,	0.4 in 100 up.	260	17.2	10.3	8	60	2	[45] [[30]]
Feb. 24,	South,	West Newton Street, .	Rutland Street, . .	0.4 in 100 up.	250	17.4	10.0	-	71	3	[56] [[41]]
Feb. 24,	South,	Springfield Street, .	West Chester Park, .	0.4 in 100 down.	270	14.4	12.8	6	79	4	[59] [[40]]
Feb. 24,	South,	Sterling Street, . .	Ruggles Street, . .	2.0 in 100 up.	650	32.2	13.6	9	93	5	[73] [[53]]
Mar. 7,	West,	B. & A. bridge, . .	- -	2.8 in 100 down	466	15	21.3	6.8	134	1	*Snowing hard.* * Little sand used in this experiment. [103] [[72]]
Mar. 7,	East,	Coolidge's Corner, .	- -	4 in 100 down.	238	10	16.2	8.4	157	2	* Sand. [133] [[109]]
Mar. 7,	East,	B. & A. bridge, . .	- -	1.7 in 100 down.	179	10	12.2	5.4	48	3	* Sand. [30] [[12]]
Mar 7,	West,	B. & A. bridge, . .	- -	2.8 in 100 down.	253	10	17.2	8	142	4	* Sand applied by driver. [117] [[92]]
Mar. 7,	West,	- -	- -	Level, .	210	10	14.3	6.4	95	5	* Sand applied by driver. [74] [[53]]
Mar. 7,	West,	Near Kent Street, .	Near Kent Street, .	1 in 100 up.	183	10	12.4	7.4	84	6	* Sand applied by driver during last second. [66] [[48]]
Mar. 7,	West,	Beyond Kent Street, .	Beyond Kent Street, .	1 in 100 down.	93	10	6.3	5.2	36	7	* Sand applied by driver. [27] [[18]]
Mar. 7,	East,	Coolidge's Corner, .	- -	2.8 in 100 down.	130	10	8.8	6.2	54	8	* Sand applied by driver. [41] [[28]]

Mar. 7,	East,	Charles Street, . .	– –	2 in 100 down.	133	10	9.0	–	55	9	* ——. [42] [[29]]
Mar. 7,	East,	B. & A. bridge, . .	– –	1.7 in 100 down.	185	10	12.6	6.0	85	10	* Sand. [67] [[46]]
											Rails dry. Strong Westerly wind.
Mar. 17,	West,	300 feet West of B. & A. bridge.	– –	2 in 100 down.	179	10	12.2	–	42.5	1	† [24.5] [[6.5]]
Mar. 17,	West,	West of B. & A. bridge,	– –	1.6 in 100 down.	258	10	17.5	4.8	61.5	2	† Some sand. [31.5] [[5.5]]
Mar. 17,	West,	East of Hawes Street,	West of Hawes Street,	Level, .	244	10	16.6	5.0	73	3	† Sand used over last 10 feet. [49] [[25]]
Mar. 17,	East,	East of Coolidge's Corner.	East of St. Paul Street,	Level, .	203	10	13.8	5.4	81	4	† Sand used over last 25 feet. [61] [[41]]
Mar. 17,	East,	West of Hawes Street,	West of Hawes Street,	1 in 120 up.	231	10	15.7	5.6	70.5	5	† Some sand used. [47.5] [[24.5]]
Mar. 17,	East,	West of B. & A. bridge,	500 feet West of B. & A. bridge.	2 in 100 up.	188	10	12.8	5.4	56	6	† No sand. [37] [[18]]
Mar. 17,	East,	Mill Dam, . . .	Park entrance, . .	Level, .	205	10	14.0	5.2	81	7	† Sand over last 10 feet. [61] [[41]]
Mar. 17,	West,	West Chester Park, .	Mill Dam, . . .	Level, .	140	10	9.5	4.6	43	8	† No sand. [29] [[15]]
Mar. 17,	West,	Near Tappan Street,	Near Tappan Street,	1 in 100 down.	331	20	11.3	–	22	9	Keys thrown from front platform. No sand.
Mar. 17,	East,	Near Pleasant Street,	Charles Street, . .	4 in 100 down.	133	9	10	–	23	10	Driver gave signal for stopping. Sand.
Mar. 17,	East,	West of Charles Street,	St. Paul Street, . .	Level, .	323	20.8	10.6	–	24	11	No sand. Signal for stopping by Mr. Crocker waving handkerchief in front of car.
Mar. 17,	East,	St. Paul Street, . .	Kent Street, . .	Level, .	440	25	12	–	48	12	No sand. Signal given by Mr. Crocker waving handkerchief in front of ear.

* Signals to stop all given from rear platform.

† Signals thus far all given from rear platform.

[I.]

Tabular Statement of Accidents reported to the Board of Railroad Commissioners during Year ending Sept. 30, 1890.

RAILROADS.	GENERAL STATEMENT.									PASSENGERS.			
										BY CAUSES BEYOND THEIR OWN CONTROL.		BY THEIR OWN MISCONDUCT OR WANT OF CARE.	
	Whole Number of Persons killed or injured.	Passengers.	Employees.	At Crossings or Stations.	Trespassers.	Children.	Adults.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Boston & Albany,	106	4	55	11	36	6	100	33	73	–	–	1	3
Boston & Maine,	351	75	185	30	61	15	336	68	283	–	16	9	50
Fitchburg,	103	7	55	11	30	10	93	33	70	–	–	1	6
New York & New England,	62	5	43	3	12	1	62	17	46	–	–	–	5
Old Colony,	156	78	36	11	31	14	142	78	78	21	51	5	1
Cheshire,	1	–	1	–	–	–	1	1	–	–	–	–	–
Connecticut River,	11	–	2	1	8	1	10	10	1	–	–	–	–
Grafton & Upton,	–	–	–	–	–	–	–	–	–	–	–	–	–
New London Northern,	2	–	–	–	2	–	2	1	1	–	–	–	–
New York, New Haven & Hartford,	5	–	3	1	1	–	5	1	4	–	–	–	–
Providence & Worcester (N. Y., P. & B.),	26	2	8	2	14	5	21	12	14	–	–	1	1

Union Freight,	1	–	1	–	–	–	1	1	–	–	–	–	–
Housatonic, of Connecticut,	1	–	–	–	1	–	1	1	–	–	–	–	–
Boston, Revere Beach & Lynn,	4	–	1	–	3	1	3	1	3	–	–	–	–
Martha's Vineyard,	–	–	–	–	–	–	–	–	–	–	–	–	–
Nantucket,	–	–	–	–	–	–	–	–	–	–	–	–	–
Worcester & Shrewsbury,	–	–	–	–	–	–	–	–	–	–	–	–	–
	830	171	389	70	199	53	777	257	573	21	67	17	66

Tabular Statement of Accidents, etc. — Continued.

RAILROADS.	EMPLOYEES.													
	Train Men.	Other Employees.	BY COUPLING OR UNCOUPLING CARS.		BY OVERHEAD BRIDGES.		BY TRAIN ACCIDENTS.		FALLING FROM TRAIN OR ENGINE.		VARIOUS CAUSES.*		Total killed.	Total injured.
			Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		
Boston & Albany,	50	5	1	20	–	2	–	8	3	10	8	3	12	43
Boston & Maine,	142	43	–	84	2	8	–	4	9	23	9	46	20	165
Fitchburg,	49	6	1	32	–	1	–	2	3	6	2	8	6	47
New York & New England,	30	13	–	8	1	3	–	–	3	6	4	18	8	35
Old Colony,	23	13	4	4	2	–	1	3	2	5	6	9	15	21
Cheshire,	1	–	–	–	–	–	–	–	1	–	–	–	1	–
Connecticut River,	–	2	–	–	–	–	–	–	–	–	2	–	2	–
Grafton & Upton,	–	–	–	–	–	–	–	–	–	–	–	–	–	–
New London Northern,	–	–	–	–	–	–	–	–	–	–	–	–	–	–
New York, New Haven & Hartford,	–	–	–	–	–	–	–	–	–	1	–	–	–	3
Providence & Worcester (N. Y., P. & B.),	7	1	–	2	–	–	–	–	1	1	2	2	3	5

Union Freight,	1	–	–	–	–	–	–	–	1	–	–	–	1	–
Housatonic, of Connecticut,	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Boston, Revere Beach & Lynn,	1	–	–	–	–	1	–	–	–	–	–	–	–	1
Martha's Vineyard,	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Nantucket,	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Worcester & Shrewsbury,	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	307	83	6	152	5	14	1	17	23	52	33	86	68	320

---

* Standing or walking too near track, 20; stepping in front of train, 9; attempting to board moving train, 9; freight falling when loading, 9; jumping from train or engine in motion, 7; falling on track, 6; foot caught between draw-bars, 6; thrown down by cars shunted together, 5; caught between car and platform or wall, 3; hand-car run down by train, 4; dump car tipping over, 2; thrown from hand-car by crank, 2; while inspecting or repairing car, 2; contact with switch lever or other object beside the track, 4; falling from tramway in coal shed, 2; struck by broken connecting rod, 2; falling down embankment, struck by revolving crank of hand-car, arm broken in setting brake, struck by train when removing hand-car, caught between passing trains, balls and lantern falling from signal staff, struck by car derailed from opposite track in shifting, caught between brake wheel and end of another car, caught between cars in getting down, blown from train, slipping from step of engine, hurt by broken parallel rod, struck by broken casting from tender, 1 each; unexplained, 6.

Tabular Statement of Accidents, etc. — Concluded.

RAILROADS.	AT GRADE CROSSINGS.				AT STATIONS.		TRESPASSERS.				
	WITH GATES OR FLAGMEN.		WITHOUT GATES OR FLAGMEN.								
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Unlawfully on Track.	Unlawfully on Cars.	Killed.	Injured.	Suicides.
Boston & Albany,	1	1	2	5	1	1	28	8	18	18	1
Boston & Maine,	4	10	2	5	2	7	45	16	31	30	1
Fitchburg,	1	–	4	3	1	2	20	10	19	11	–
New York & New England,	–	–	–	1	1	1	12	–	8	4	1
Old Colony,	4	–	–	1	3	3	29	2	24	7	1
Cheshire,	–	–	–	–	–	–	–	–	–	–	–
Connecticut River,	–	–	1	–	–	–	7	1	7	1	–
Grafton & Upton,	–	–	–	–	–	–	–	–	–	–	–
New Haven & Northampton,	–	–	–	–	–	–	–	–	–	–	–
New London Northern,	–	–	–	–	–	–	2	–	1	1	–
New York, New Haven & Hartford,	–	–	–	1	–	–	1	–	1	–	–
Providence & Worcester (N. Y., P. & B.),	–	–	–	1	–	1	10	4	8	6	–

Union Freight,	–	–	–	–	–	–	–	–	–	–	–
Housatonic, of Connecticut,	–	–	–	–	–	–	1	–	1	–	–
Boston, Revere Beach & Lynn,	–	–	–	–	–	–	3	–	1	2	–
Martha's Vineyard,	–	–	–	–	–	–	–	–	–	–	–
Nantucket,	–	–	–	–	–	–	–	–	–	–	–
Worcester & Shrewsbury,	–	–	–	–	–	–	–	–	–	–	–
	10	11	9	17	8	15	158	41	119	80	4

Train Accidents reported to the Board of Railroad Commissioners during the Year ending Sept. 30, 1890.

COLLISIONS.	Number.	Persons killed.	Persons injured.
Head.			
Passenger train with empty cars on cross-over track,	1	–	20
Rear.			
Parts of separated freight trains, ...	2	–	1
Passenger train with preceding passenger train, .	1	–	6
Passenger car switched onto a train without braking, .	–	–	5
	5	–	32
DERAILMENTS.			
Passenger train, caused by track-jack, ...	1	23	30
Engine of passenger train, ...	1	–	2
Passenger car, ...	1	–	1
Switching engine, ...	1	–	4
Freight trains, ...	3	–	–
	7	23	37
MISCELLANEOUS,			
The door of a refrigerator car projecting so as to scrape the whole length of passenger car on opposite track, ...	1	–	6
Explosion of locomotive boiler, ...	1	–	2
	2	–	8

Tabular Statement of Accidents reported to the Board of Railroad Commissioners during Ten Years.

	GENERAL STATEMENT.									PASSENGERS.				EMPLOYEES.	
	Whole number of Casualties to Persons.	Passengers.	Employees.	At Highway Crossings and Stations.	Trespassers.	Children.	Adults.	Fatal.	Not Fatal.	From Causes beyond their own Control.	From their own Misconduct or Want of Care.	Fatal.	Not Fatal.	Train-men.	Other Employees.
Year ending Sept. 30, 1881, .	415	42	200	47	126	23	392	184	231	11	31	15	27	167	33
" " 1882, .	414	27	198	57	132	29	385	163	251	4	22	9	15	158	40
" " 1883, .	524	61	265	50	147	33	491	191	333	1	24	14	21	192	73
" " 1884, .	457	76	182	38	161	33	424	181	276	44	32	14	62	139	43
" " 1885, .	517	74	233	55	152	28	486	163	351	12	62	14	60	191	42
" " 1886, .	583	107	273	44	159	43	540	201	382	45	62	20	87	212	61
" " 1887, .	802	198	357	54	193	38	764	265	537	144	54	37	161	300	57
" " 1888, .	782	117	391	78	196	34	748	244	538	72	45	18	99	323	68
" " 1889, .	652	58	315	82	197	47	605	236	416	10	48	9	49	271	44
" " 1890, .	830	171	389	70	199	53	777	257	573	88	83	38	133	307	83
Total, . .	5,976	931	2,803	575	1,662	391	5,612	2,085	3,888	431	463	188	714	2,260	544
Average, ...	597.6	93.1	280 3	57.5	166 2	39.1	561 2	208.5	388.8	43 1	46.3	18.8	71.4	226.	54.4

Tabular Statement of Accidents, etc., during Ten Years — Concluded.

	EMPLOYEES — Concluded.							AT HIGHWAY CROSSINGS.				AT STATIONS.		TRESPASSERS.				
	Coupling or uncoupling Cars.	By Overhead Bridges.	By Train Accidents.	Falling from Train.	Various Causes.	Fatal.	Not Fatal.	With Gates or Flagmen.	Without Gates or Flagmen.	Fatal.	Not Fatal.	Fatal.	Not Fatal.	Walking or lying on Track.	Unlawfully riding on Cars.	Fatal.	Not Fatal.	Suicide.
Year ending Sept. 30, 1881,	59	28	18	46	48	72	128	12	24	11	25	5	6	104	22	81	45	3
" " 1882,	60	18	15	43	62	56	142	25	29	21	33	3	–	109	23	75	57	7
" " 1883,	86	14	13	55	97	62	203	18	26	15	29	4	2	112	33	93	54	3
" " 1884,	68	12	11	35	56	47	135	19	13	13	19	4	2	126	35	104	57	4
" " 1885,	91	11	19	42	70	29	204	20	30	23	27	1	3	120	32	93	59	3
" " 1886,	107	8	25	55	78	62	211	15	20	22	13	6	3	130	29	91	68	3
" " 1887,	122	10	32	74	119	79	278	17	30	19	28	3	4	158	35	126	67	11
" " 1888,	154	8	35	82	112	80	311	36	23	27	32	7	12	154	42	114	82	4
" " 1889,	140	12	19	57	87	61	254	22	34	30	26	16	10	167	30	119	78	7
" " 1890,	158	19	18	75	119	68	320	20	26	18	28	7	17	157	41	119	80	4
Total, ...	1,045	130	205	554	848	616	2,186	204	255	199	260	56	59	1,328	322	1,034	647	49
Average, . . .	104.5	13.	20.5	55.4	84 8	61.6	218 6	20.4	25.5	19.9	26.	5.6	5.9	132 8	32.2	103.4	64.7	4.9

Tabular Statement of Accidents to Employees in Massachusetts during Ten Years.

Year ending September 30.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	Totals.
Injured by coupling cars,	59	60	86	68	91	107	122	154	140	158	1,045
by overhead bridges,	28	18	14	12	11	8	10	8	12	19	128
by train accidents,	18	15	13	11	19	25	32	35	19	18	205
by falling from trains,	46	43	55	35	42	55	74	82	57	75	564
by other causes,	48	62	97	56	70	78	119	112	87	119	848
Totals,	200	198	265	182	233	273	357	391	315	389	2,790

Train Accidents in Massachusetts in Ten Years.

YEAR ENDING SEPTEMBER 30.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Number of accidents, ...	28	32	44	27	15	19	18	11	13	11
Number of persons killed, . . .	8	6	11	3	0	14	28	22	2	23
Number of persons injured, . . .	16	9	54	44	17	46	136	74	15	77

*Accidents on Railroads of the United States for the Year ending June 30, 1889, reported to the Interstate Commerce Commission.**

KIND OF ACCIDENT.	EMPLOYEES.		PASSENGERS.		OTHER PERSONS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Coupling and uncoupling cars, ...	300	6,757	–	–	–	–	300	6,757
Falling from trains and engines, . . .	493	2,011	–	–	–	–	493	2,011
Overhead obstructions, .	65	296	–	–	–	–	65	296
Collisions, . . .	167	820	107	445	37	48	311	1,313
Derailments, . . .	125	655	28	339	29	69	182	1,113
Other train accidents, .	189	1,016	26	247	522	515	737	1,778
At highway crossings, .	24	45	3	16	410	634	437	695
At stations, . . .	70	699	26	295	328	472	424	1,466
Other causes, . . .	539	7,729	120	754	2,215	2,397	2,874	10,880
Total, . . .	1,972	20,028	310	2,146	3,541	4,135	5,823	26,309

Casualties to Various Classes of Employees on Railroads of the United States.

CLASS OF EMPLOYEES.	Number.	Killed.	Injured.
Trainmen, ...	138,323	1,179	11,301
Switchmen, flagmen and watchmen, ...	33,044	229	2,155
Other employees, ...	517,136	536	6,360
Unclassified, ...	16,240	28	212
Total, ...	704,743	1,972	20,028

---

* From the Fourth Annual Report of the Interstate Commerce Commission.

[J.]

MISCELLANEOUS.

GRAFTON & UPTON RAILROAD, EXTENSION TO MILFORD.

By order of the Board of Railroad Commissioners, I certify that, after an examination of the extension of the Grafton & Upton Railroad from West Upton to Milford, the Board finds that the laws relating to its construction have been complied with, and that it appears to be in a safe condition for operation.

WM. A. CRAFTS,
Clerk.

MAY 15, 1890.

OLD COLONY RAILROAD EXTENSION FROM NORTH ATTLEBOROUGH TO WALPOLE.

By order of the Board of Railroad Commissioners, I certify that, after an examination of the branch or extension of the Old Colony Railroad between North Attleborough and Walpole, the Board finds that all laws relating to its construction have been complied with, and that it appears to be in a safe condition for operation.

WM. A. CRAFTS,
Clerk.

NOV. 21, 1890.

BOSTON, WINTHROP & SHORE RAILROAD, ABANDONMENT OF LOCATION IN REVERE.

BOSTON, April 8, 1890.

WM. A. CRAFTS, Esq., *Clerk of Board of Railroad Commissioners, Boston.*

DEAR SIR: — In accordance with chapter 77 of the Acts of the Commonwealth of Massachusetts for 1890, the Boston, Winthrop & Shore Railroad Company hereby intends to discontinue and abandon that portion of its present railroad route and location in the town of Revere, which extends from the boundary line between the towns of Winthrop and Revere to the location of the road of the Boston, Revere Beach & Lynn Railroad Company.

Yours truly,
BOSTON, WINTHROP & SHORE RAILROAD COMPANY,
BY ISAAC P. T. EDMANDS,
President.

Board of Railroad Commissioners, filed April 15, 1890.

WM. A. CRAFTS,
Clerk.

INTERLOCKING, SIGNALLING AND DERAILING DEVICES.

The following requirements as to the construction of interlocking, signalling and derailing devices at grade crossings of intersecting lines have been adopted by the Railroad and Warehouse Commission of the State of Illinois: —

General Rules.

1. The normal position of all signals must indicate danger, derail points open, and the interlocking so arranged that it will be impossible for operator to give conflicting signals.

2. On level track, when practicable, the derail points in high-speed tracks must be placed three hundred feet from fouling point at intersection of crossing tracks.

3. On descending grades, the derail points on high-speed tracks, when practicable, must be so located as to give the measure of safety equal to three hundred feet on level track.

4. The minimum distance for derail points on high-speed tracks is three hundred feet from fouling point at crossing, and no less distance from crossing will be approved, on account of ascending grade toward crossing.

5. On switching, storage and slow-speed tracks, the position of derail points may be located to best accommodate the traffic, and provide the same measure of safety indicated in foregoing rules.

6. On single-track railroads, derail points, when practicable, should be on inside of curve, and when double track is used, the derail points should be in outside rail of both tracks.

7. Home-signal posts must be fifty feet beyond point of derail. Distance between home and distance signal must not be less than twelve hundred feet. Signal post should be placed on engineman's side of track it governs.

8. In case but one derail is furnished in double-track crossing, where the current of traffic is in one direction, detector bars must be provided on opposite side of crossing from derails, and worked on same lever as derail, or interlocked with it, so that opposing signal cannot be given until crossing is cleared. In case trains back over crossing, after having passed over it, or if a current of traffic is changed, then and in that case back-up derails must be provided.

9. Guard rails should be laid on inside of rail opposite derail, and commence at least six feet toward home signal from point of derail, extending from thence toward crossing, parallel with and nine inches distant from traffic rail, total length two hundred feet, unless otherwise ordered.

10. In case there are cross-overs, turn-outs, or other connecting tracks involved in the general system, the movements of cars and trains upon which present an element of danger, which danger will be enhanced by the passage of trains on main tracks over crossings without stopping, and consequently at higher speed than would be the case without the permit sought, then, and in all such cases, whether such enhanced danger be of collision between different cars or trains of the same road, or between cars or trains of different roads, it will be necessary, in addition to the protection of the

main crossing, to provide by the proper devices and appliances against any such increased collateral dangers in the same complete manner that is required in the case of the main crossing.

11. Application for inspection of interlocking plant must be accompanied by a plain diagram, showing location of crossing and position of all main tracks, sidings, switches, turnouts, etc. The several tracks must be indicated by letters or figures, and reference made to each, explaining the manner of its use. The rate of grade on each main track must be shown, together with numbers of signals, derails, locks, etc., corresponding to levers in tower.

It is intended in this circular to state general rules, which will govern the construction of any proposed system of interlocking. The business to be handled, relative position and operation of intersecting lines, may require safeguards not mentioned herein.

The system of derailing, signalling and interlocking must be connected and worked, and be complete in each particular before it will be approved.

[K.]

Receipts of Flour in Boston during Ten Years, ending September 30.

	Flour — Barrels.									
	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Boston & Albany Railroad,	629,355	569,692	699,553	610,673	667,148	520,810	456,161	477,001	448,134	417,525
Boston & Lowell Railroad,	160,704	104,376	133,491	132,825	186,304	119,324	126,891	118,684	86,561	117,128
Fitchburg Railroad,	869,971	777,466	1,268,605	1,514,586	1,172,335	1,747,500	1,662,582	1,137,849	946,319	764,810
Grand Junction (B & A. R R.),	911,357	668,133	1,110,564	1,107,960	1,193,323	894,118	1,076,691	946,884	700,998	672,189
N. Y. & New England R.R.,	190,169	227,576	331,391	278,944	101,214	69,011	66,167	178,495	197,620	279,759
Total by through lines from West,	2,761,556	2,347,243	3,543,604	3,642,788	3,320,324	3,350,763	3,388,492	2,858,913	2,379,632	2,251,411
Boston & Maine Railroad,	29,227	13,343	16,126	9,383	1,462	1,431	2,761	1,718	3,498	152,101
Boston & Providence R R.,	4,241	3,588	5,548	1,876	349	1,091	1,088	1,139	6,521	15,145
Eastern Railroad,	11,335	4,732	9,950	11,776	1,580	–	–	–	–	–
Old Colony Railroad,	3,646	5,115	4,390	3,218	1,941	3,414	2,199	1,460	10,206	1,466
Portland steamer,	1,893	352	459	187	25	905	298	372	43	1,714
New York steamer,	18,642	2,121	991	6,130	1,857	3,963	6,859	8,559	14,060	12,904
Baltimore steamer,	16,162	5,907	7,562	21,648	12,574	13,196	19,413	26,120	26,683	18,319
Philadelphia steamer,	300	1,625	10	1,370	250	274	823	1,000	1,477	14,508
New Orleans steamer,	–	–	225	–	–	–	–	–	–	–
Sail-vessels, Other sources,	–	–	1,823	4,937	2,741	135	–	13	25	715
Total from seaboard,	85,646	35,783	47,084	62,725	22,779	24,409	33,441	40,381	62,513	216,872
Total from all sources,	2,853,079	2,383,026	3,590,688	3,705,513	3,343,103	3,375,172	3,421,933	2,899,294	2,442,145	2,468,283

Increase in 1890, 26,138 barrels, = 1+ per cent.

Receipts of Corn in Boston during Ten Years, ending September 30.

	Corn — Bushels.									
	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Boston & Albany Railroad,	1,349,388	807,175	927,490	1,041,605	1,603,457	1,380,395	1,385,793	706,070	1,304,820	968,310
Boston & Lowell Railroad,	794,534	1,355,529	571,595	510,214	408,400	226,370	429,553	595,997	577,770	530,585
Fitchburg Railroad,	3,659,457	2,640,372	4,111,500	3,876,725	3,764,185	4,399,160	2,427,420	2,038,725	4,895,789	5,918,995
Grand Junction (B. & A. R. R.),	8,560,384	3,170,842	3,386,291	4,193,700	2,987,880	2,185,400	2,518,400	2,504,550	4,100,960	3,143,170
N. Y. & New England R. R.,	177,519	329,114	843,554	363,637	38,051	76,551	48,886	258,312	741,915	335,925
Total by through lines from West,	14,541,282	8,303,032	9,840,430	9,985,881	8,801,973	8,267,876	6,810,052	6,103,654	11,621,254	10,896,985
Boston & Maine Railroad,	257,841	255,295	305,077	124,635	6,150	60,386	45 665	6,385	10	24,960
Boston & Providence R. R.,	–	–	700	800	500	1,170	1,175	–	–	–
Eastern Railroad,	2,500	7,050	16,270	6,664	1,425	–	–	–	–	–
Old Colony Railroad,	–	7,650	5,300	5,450	500	1,100	1,250	–	–	–
Portland steamer,	–	–	–	–	–	–	–	–	–	–
New York steamer,	–	5,000	–	–	–	–	728	–	–	–
Baltimore steamer,	–	10,811	15,712	32,942	6,498	4,816	6,687	3,409	–	6,870
Philadelphia steamer,	–	–	–	–	–	240	–	–	–	–
New Orleans steamer,	–	–	16,444	–	1,500	–	–	–	–	–
Sail-vessels, Other sources,	200	8,000	*72,891	5,416	–	–	19,500	53,885	–	–
Total from seaboard,	260,541	293,806	432,394	175,907	16,573	67,712	75,005	63,679	10	31,830
Total from all sources,	14,801,823	8,596,838	10,272,824	10,161,788	8,818,546	8,335,588	6,885,057	6,167,333	11,621,264	10,928,815

Decrease in 1890, 692,449 bushels, = 6 + per cent.

* Savannah steamer.

Receipts of Oats in Boston during Ten Years, ending September 30.

	Oats — Bushels.									
	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Boston & Albany Railroad,	1,094,476	1,411,900	1,332,825	1,754,628	2,170,405	2,179,530	1,663,457	2,161,893	2,088,965	1,854,005
Boston & Lowell Railroad,	201,602	469,327	163,421	78,876	487,889	474,539	610,256	733,150	637,560	976,783
Fitchburg Railroad,	1,751,469	1,615,072	2,734,844	3,124,318	2,877,370	4,695,640	3,572,504	2,762,035	3,056,765	3,367,621
Grand Junction (B. & A. R.R.),	663,000	472,450	558,200	702,250	463,700	194,670	217,000	341,000	332,900	281,704
N. Y. & New England R R.,	46,650	163,000	93,118	85,260	33,722	19,615	98,105	224,378	246,450	639,600
Total by through lines from West,	3,757,197	4,131,749	4,882,408	5,745,332	6,033,086	7,562,994	6,161,322	6,222,456	6,362,640	7,119,713
Boston & Maine Railroad,	21,050	103,875	28,400	5,925	7,575	4,182	1,000	11,860	3,000	65,878
Boston & Providence R.R.,	–	–	–	–	–	–	–	–	–	–
Eastern Railroad,	8,100	138,835	20,005	7,100	400	–	–	–	–	–
Old Colony Railroad,	–	2,750	800	3,100	600	2,325	650	–	–	–
Portland steamer,	–	–	–	–	–	–	–	–	–	–
New York steamer,	–	–	–	–	–	–	–	–	–	–
Baltimore steamer,	–	–	–	1,437	–	–	–	–	–	–
Philadelphia steamer,	–	–	–	–	–	–	–	–	–	–
New Orleans steamer,	–	–	–	–	–	–	–	–	–	–
Sail-vessels, Other sources,	–	–	–	–	2,968	–	–	–	–	–
Total from seaboard,	29,150	245,460	49,205	17,562	11,543	6,507	1,650	11,860	3,000	65,878
Total from all sources,	3,786,347	4,372,209	4,931,613	5,762,894	6,044,629	7,570,501	6,162,972	6,234,316	6,365,640	7,185,591

Increase in 1889, 131,324 bushels, = 2 per cent. Increase in 1890, 819,951 bushels, = 12 + per cent.

Receipts of Wheat in Boston during Ten Years, ending September 30.

	WHEAT — BUSHELS.									
	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Boston & Albany Railroad, .	50,525	28,700	36,005	24,900	91,855	40,919	49,596	41,329	24,860	36,750
Boston & Lowell Railroad, .	337,253	250,641	198,731	94,666	106,968	199,574	69,617	16,054	3,720	20,100
Fitchburg Railroad, . . .	994,446	918,763	990,289	842,662	1,193,555	730,443	1,713,755	1,135,870	166,726	640,760
Grand Junction (B & A. R.R.),	2,832,769	1,458,400	1,037,170	722,100	871,300	1,127,371	1,613,100	502,150	204,450	55.650
N. Y. & New England R R., .	955	175,400	295,100	103,074	–	121	1,700	7,985	1,040	3,000
Total by through lines from West, . .	4,215,948	2,831,904	2,557,295	1,787,402	2,263,678	2,098,428	3,447,768	1,703,388	400,796	756,260
Boston & Maine Railroad, .	23,932	37,884	17,957	10,400	–	1,088	600	500	–	720
Boston & Providence R.R , .	–	–	10,000	600	–	–	–	–	–	–
Eastern Railroad, . . .	–	800	1,015	1,400	600	–	–	–	–	–
Old Colony Railroad, . .	–	500	–	–	–	–	–	–	–	–
Portland steamer, . . .	–	–	–	–	–	–	–	–	–	–
New York steamer, . .	–	–	–	–	–	–	–	–	–	–
Baltimore steamer, . .	–	–	–	–	–	–	–	–	–	880
Philadelphia steamer, . .	–	–	–	–	–	–	–	–	–	–
New Orleans steamer, . .	–	–	–	–	–	–	–	–	–	–
Sail-vessels, . . . Other sources, . .	–	–	–	4,500	–	–	–	–	–	–
Total from seaboard, . .	23,932	39,184	28,972	16,900	600	1,088	600	500	–	1,600
Total from all sources, .	4,239,880	2,871,088	2,586,267	1,804,302	2,264,278	2,099,516	3,448,368	1,703,888	400,796	757,860

Increase in 1890 over 1889, 357,064 bushels, = 89 per cent. Decrease from 1881, 3,482,020 bushels, = 82 per cent.

[L.]

EXPENSES OF OFFICE.

Rent of office,	$2,500 00
Janitor and messenger,	602 75
Bridge engineer,	3,000 00
Stenographer's services,	643 78
Printing and binding,	489 88
Postage,	122 50
Telephone,	120 30
Stationery,	97 05
Books, maps and newspapers,	96 11
Advertising,	78 15
Expert on tables,	72 00
Document cases, type-writer supplies, etc.,	44 60
Photographs and drawings for report,	43 60
Ice, gas, watering street,	47 61
Cleaning carpets, and other incidentals,	50 25
	$8,008 58

BOARD OF RAILROAD COMMISSIONERS.

George G. Crocker, Boston, *Chairman*,	Term expires July, 1891.
Edward W. Kinsley, Boston,	Term expires July, 1893.
Everett A. Stevens, Boston,	Term expires July, 1892.

Clerk — William A. Crafts, Boston.
Accountant — Fred E. Jones, Boston.
Bridge Engineer — George F. Swain, Boston.

TABULATED STATEMENT

OF

RAILWAY AND RAILROAD RETURNS.

CONTENTS OF TABLES.

STREET RAILWAYS.

Capital Stock, Debt, etc.

	Column	Page
Capital Stock paid in,	1	270
Number of Stockholders,	2	270
Funded Debt,	3	270
Unfunded Debt,	4	270
Gross Debt,	5	270
Cash and Cash Assets,	6	270
Net Debt,	7	270

Cost of Road, Equipment, etc.

Road,	8	272
Equipment,	9	272
Land and Buildings,	10	272
Other Property,	11	272
Total Permanent Investments,	12	272
Total Property and Assets,	13	272

Property Accounts: Additions and Reductions during the Year.

Construction,	14	274
Equipment,	15	274
Other Property,	16	274
Total Additions,	17	274
Reductions,	18	274
Net Additions,	19	274

Revenue for the Year.

Passengers,	20	276
Rents,	21	276
Mail and Express,	22	276
Sales of Manure,	23	276
Other Sources,	24	276
Total income,	25	276

EXPENSES FOR THE YEAR.

	Column	Page
Repairs of Road-Bed and Track,	26	278
Repairs of Equipment,	27	278
Repairs of Buildings,	28	278
Renewal of Horses,	29	278
Salaries, etc., General Office,	30	278
Wages, etc., Employees,	31	278
Provender,	32	278
Taxes,	33	280
Rents,	34	280
Insurance,	35	280
Injuries to Persons and Property,	36	280
Other Expenses,	37	280
Total Expenses,	38	280
Percentage Expenses to Earnings,	39	280

NET INCOME, INTEREST, DIVIDENDS, ETC.

	Column	Page
Net Income,	40	282
Interest accrued,	41	282
Dividends declared,	42	282
Per cent.,	43	282
Balance for the Year,	44	282
Surplus last Year,	45	282
Surplus Sept. 30, 1890,	46	282

EQUIPMENT.

	Column	Page
Cars,	47	284
Other vehicles,	48	284
Horses,	49	284
Harnesses,	50	284

LENGTH OF ROAD.

	Column	Page
Main Line,	51	284
Sidings,	52	284
Total Length,	53	284

MILEAGE, ETC.

	Column	Page
Miles run,	54	286
Passengers carried,	55	286
Round trips,	56	286
Average Number of Passengers per Round Trip,	57	286
Persons employed,	58	286

ACCIDENTS.

	Column	Page
Fatal,	59	286
Injured,	60	286

Per Mile of Road Owned.

	Column	Page
Capital Stock paid in,	61	288
Net Debt,	62	288
Cost of Construction,	63	288

Per Mile of Road Operated.

	Column	Page
Cost of Equipment,	64	288
Repairs of Road-Bed and Track,	65	288
Repairs of Equipment,	66	288
Renewals of Horses,	67	288

Gross Income.

	Column	Page
Per Mile operated,	68	290
Per Round Trip,	69	290
Per Mile Run,	70	290
Per Passenger carried,	71	290

Expenses.

	Column	Page
Per Mile operated,	72	290
Per Round Trip,	73	290
Per Mile run,	74	292
Per Passenger carried,	75	292

Net Income.

	Column	Page
Per Mile operated,	76	292
Per Round Trip,	77	292
Per Mile run,	78	292
Per Passenger carried,	79	292

STEAM RAILROADS.

Length of Road and Branches.

	Column	Page
Main Line,	1	296
Main Line in Massachusetts,	2	296
Double Track in Massachusetts,	3	296
Double Track out of Massachusetts,	4	296
Sidings in Massachusetts,	5	296
Sidings out of Massachusetts,	6	296
Total Length computed as Single Track,	7	296

Reports.

	Column	Page
Attleborough Branch,	29	318
Berkshire,	30	318
Boston & Albany,	8	304

Reports.

	Column	Page
Boston & Lowell,	31	318
Boston & Maine,	10	304
Boston & Providence,	32	318
Boston, Revere Beach & Lynn,	23	316
Boston, Winthrop & Shore,	24	316
Chatham,	33	318
Central Massachusetts,	34	319
Chelsea Beach,	59	324
Cheshire,	13	308
Connecticut River,	14	308
Danvers,	60	324
Eastern,	35	319
Fall River,	36	319
Fall River, Warren & Providence (Trustees'),	15	308
Fitchburg,	9	304
Grafton & Upton,	16	308
Holyoke & Westfield,	37	319
Hoosac Tunnel & Wilmington,	25	316
Horn Pond Branch,	61	325
Housatonic of Connecticut,*	17	310
Lowell & Andover,	38	319
Martha's Vineyard,	26	316
Milford, Franklin & Providence,	40	320
Milford & Woonsocket,	39	320
Monadnock,	41	320
Monadnock (Lessees),	18	312
Nantasket Beach (Trustees'),	42	320
Nantucket,	27	316
Nashua & Lowell,	43	320
Nashua, Acton & Boston,	44	321
Newburyport,	62	325
Newburyport City,	45	321
New Haven & Northampton,	46	321
New London Northern,	19	312
New York & Boston Inland,	63	325
New York & New England,	11	304
New York, New Haven & Hartford,	20	312
North Brookfield,	47	321
Norwich & Worcester,	48	321
Old Colony,	12	304
Pittsfield & North Adams,	49	322
Providence & Worcester,	21	312
Providence, Webster & Springfield,	50	322
Rhode Island & Massachusetts,	51	322
Stockbridge & Pittsfield,	52	322
Stony Brook,	53	323

---

* Operating the Berkshire, the Stockbridge & Pittsfield and the West Stockbridge Railroads.

REPORTS.

	Column	Page
Union Freight,	22	312
Vermont & Massachusetts,	54	323
Ware River,	55	323
West Amesbury Branch,	56	323
West Stockbridge,	57	324
Worcester, Nashua & Rochester,	58	324
Worcester and Shrewsbury,	28	316

TABULATED COMPARATIVE RESULTS.

STOCK, DEBT AND COST PER MILE OF ROAD OWNED.

Stock paid in,	64	328
Net Debt,	65	328
Total Stock and Net Debt,	66	328
Construction,	67	328
Equipment,	68	328
Total Permanent Investments,	69	328

EARNINGS AND EXPENSES PER MILE OF ROAD OPERATED.

Total Transportation Earnings,	70	329
Operating Expenses,	71	329
Net Earnings,	72	329

EARNINGS AND EXPENSES PER TOTAL REVENUE-TRAIN MILE.

Total Transportation Earnings,	73	329
Operating expenses,	74	329
Net Earnings,	75	329

EXPENSES PER TOTAL TRAIN MILE.

Repairs of Road,	76	330
New Rails,	77	330
Repairs of Bridges,	78	330
Repairs of Locomotives,	79	330
Fuel,	80	330
Repairs of Passenger, Baggage and Mail Cars,	81	330
Repairs of Freight-Cars,	82	330

REPAIRS.

Per Locomotive,	83	331
Per Passenger, Baggage and Mail Car,	84	331
Per Freight and other Car,	85	331

AVERAGES, ETC.

	Column	Page
Per Passenger: Average Distance travelled,	86	331
Per Ton of Freight: Average Distance carried,	87	331
Average Number of Passengers per Train Mile,	88	331
Average Number of Tons of Freight per Train Mile,	89	331

EARNINGS, EXPENSES, NET EARNINGS, ETC.

	Column	Page
Passenger Earnings,	90	332
Freight Earnings,	91	332
Other Earnings from Operation,	92	332
Total Transportation Earnings,	93	332
Operating Expenses,	94	332
Net Earnings,	95	332
Per cent. Operating Expenses to Transportation Earnings,	96	332

ABSTRACT OF STREET RAILWAY RETURNS.

	STREET RAILWAYS.	CAPITAL STOCK, DEBT, ETC.						
		1.—Capital Stock paid in.	2.—Number of Stockholders.	3.—Funded Debt.	4.—Unfunded Debt.	5.—Gross Debt.	6.—Cash and Cash Assets.	7.—Net Debt.
1	Albany Street Freight, . .	$50,000 00	8	–	$2,000 00	$2,000 00	$1,698 20	$301 80
2	Attleborough, North Attleborough & Wrentham, .	60,000 00	18	$50,000 00	9,913 85	59,913 85	7,426 71	52,487 14
3	Brockton, ...	150,000 00	71	150,000 00	23,492 46	173,492 46	26,886 64	146,605 82
4	Beverly & Danvers, . .	12,000 00	37	–	11,432 77	11,432 77	833 30	10,599 47
5	Boston & Chelsea, . .	121,000 00	96	–	–	–	–	–
6	Boston & Revere Electric, .	50,000 00	8	25,000 00	14,084 81	39,084 81	4,953 74	34,131 07
7	Black Rocks & Salisbury B'h,	125,000 00	30	–	121,236 02	121,236 02	15,738 58	105,497 44
8	East Middlesex, . . .	200,000 00	56	125,000 00	49,367 86	174,367 86	7,746 74	166,621 12
9	East Side, ...	45,000 00	125	–	21,054 30	21,054 30	45 12	21,009 18
10	East Wareham, Onset Bay & Point Independence, . .	12,000 00	45	–	–	–	864 68	–
11	Essex Electric, . . .	50,000 00	25	–	32,732 30	32,732 30	7,472 82	25,259 48
12	Fitchburg, ...	60,000 00	24	30,000 00	1,826 66	31,826 66	3,507 49	28,319 17
13	Framingham Union, . .	60,000 00	112	50,000 00	750 00	50,750 00	1,882 93	48,867 07
14	Globe, ...	300,000 00	117	–	9,219 24	9,219 24	11,031 55	–
15	Gloucester, ...	60,000 00	9	43,000 00	19,669 30	62,669 30	20,830 80	41,838 50
16	Haverhill & Groveland, .	144,000 00	67	–	–	–	9,028 47	–
17	Holyoke, ...	50,000 00	33	–	16,500 00	16,500 00	1,474 97	15,025 03
18	Hoosac Valley, . . .	50,000 00	10	50,000 00	30,000 00	80,000 00	2,969 57	77,030 43
19	Lowell, ...	100,000 00	64	50,000 00	90,580 95	140,580 95	6,354 90	134,226 05
20	Lowell & Dracut, . . .	200,000 00	57	50,000 00	60,064 06	110,064 06	7,721 47	102,339 59
21	Lynn Belt, ...	87,150 00	76	70,006 00	3,550 00	73,250 00	7,334 89	66,215 11
22	Lynn & Boston, . . .	500,000 00	158	425,000 00	103,164 10	528,164 10	37,577 22	490,586 88
23	Manet, ...	35,000 00	23	–	11,185 84	11,185 84	1,348 80	9,837 04

24	Malden & Melrose, . .	200,000 00[1]	51	–	–	–	–	–
25	Marlborough, . . .	50,000 00	7	50,000 00	6,947 89	56,947 89	3,426 32	53,521 57
26	Merrimack Valley, . .	80,000 00	28	–	21,500 00	21,500 00	2,068 81	19,431 19
27	Milford & Hopedale,[2] . .	–	–	–	–	–	–	–
28	Naumkeag, ...	250,000 00	7	475,500 00	183,833 05	659,333 05	72,576 89	586,756 16
29	Nantucket Beach,[3]. . .	–	–	–	–	–	–	–
30	Nantucket Electric,[3] . .	–	–	–	–	–	–	–
31	Natick & Cochituate, . .	25,000 00	52	–	488 34	488 34	8,301 37	–
32	Newton, ...	100,000 00	16	–	84,120 50	84,120 50	2,374 25	81,746 25
33	Newburyport & Amesbury, .	120,000 00	33	47,000 00	168,015 12	215,015 12	7,625 00	207,390 12
34	Northampton, . . .	50,000 00	8	25,000 00	5,182 53	30,182 53	22 41	30,160 12
35	North Woburn, . . .	100,000 00	65	–	27,470 62	27,470 62	1,952 66	25,517 96
36	Onset, ...	13,520 00	22	–	800 00	800 00	1,236 82	–
37	Pittsfield, ...	43,110 00	46	–	13,500 00	13,500 00	742 36	12,757 64
38	Plum Island,[4] . . .	–	–	–	–	–	–	–
39	Plymouth & Kingston, . .	35,000 00	33	35,000 00	5,500 00	40,500 00	4,395 27	36,104 73
40	Quincy, ...	37,200 00	88	–	9 48	9 48	7,824 87	–
41	Quincy & Boston, . . .	50,000 00	60	–	27,824 87	27,824 87	8,713 42	19,111 43
42	Somerville, ...	153,000 00	28	–	–	–	–	–
43	Springfield, ...	400,000 00	139	–	76,507 80	76,507 80	13,798 98	62,708 82
44	Taunton, ...	100,000 00	164	–	44,000 00	44,000 00	4,589 33	39,410 67
45	Union, ...	260,000 00	161	93,000 00	19,004 94	112,004 94	6,413 91	105,591 03
46	West End, ...	9,891,150 00[5]	3,268[6]	4,034,442 12	3,246,659 33	7,281,101 45	1,837,103 05	5,443,998 40
47	Winnisimmet, . . .	50,000 00	41	–	121 50	121 50	244 85	–
48	Worcester Consolidated, .	350,000 00	46	150,000 00	141,606 83	291,606 83	16,742 70	274,864 13
	Totals, ...	$14,879,130 00	5,632	$6,027,942 12	$4,704,917 32	$10,732,859 44	$2,184,885 88	$8,547,973 56

---

[1] The Directors add the following note to their returns: "This item has for some years, through mistake, been reported as $165,500. It should be as above and accord with the books of the company, although it leaves a deficit on the balance sheet."

[2] Incorporated by Act of the Legislature, but has not yet completed its road.

[3] Incorporated under the General Law, but no construction commenced.

[4] Purchased May 10, 1890, by the Black Rocks & Salisbury Beach Street Railway Company.

[5] Preferred, $6,400,000; common, $3,491,150.

[6] Preferred, 2,859; common, 409.

ABSTRACT OF STREET RAILWAY RETURNS — Continued.

	STREET RAILWAYS.	Cost of Road, Equipment, etc.					
		8. — Road.	**9.** — Equipment.	**10.** — Land and Buildings.	**11.** — Other Property.	**12.**—Total Permanent Investments.	**13.**—Total Property and Assets.
1	Albany Street Freight, . .	$49,066 29	-	-	-	$49,066 29	$50,764 49
2	Attleborough, North Attleborough & Wrentham, . . .	65,051 68	$45,957 29	$4,685 23	-	115,694 20	123,120 91
3	Brockton, ...	213,388 45	61,232 96	38,712 03	-	313,333 44	340,220 08
4	Beverly & Danvers, . . .	20,015 25	-	2,979 22	-	22,994 47	23,827 77
5	Boston & Chelsea, . . .	121,000 00	-	-	-	121,000 00	121,000 00
6	Boston & Revere Electric, . .	70,355 63	9,810 00	4,884 60	-	85,050 23	90,003 97
7	Black Rocks & Salisbury Beach, .	177,678 65	37,600 80	31,384 74	-	246,664 19	262,402 77
8	East Middlesex, ...	225,496 99	87,654 52	58,662 11	-	371,813 62	379,560 36
9	East Side, ...	31,785 31	30,975 42	2,607 71	-	65,368 44	65,413 56
10	East Wareham, Onset Bay & Point Independence, . .	8,664 64	3,132 64	1,092 42	-	12,889 70	13,754 38
11	Essex Electric, ...	38,155 09	25,279 39	11,825 00	-	75,259 48	82,732 30
12	Fitchburg, ...	69,519 33	18,685 00	5,494 63	$500 00	94,198 96	97,706 45
13	Framingham Union, . . .	84,767 03	19,078 04	10,685 16	-	114,530 23	116,413 16
14	Globe, ...	200,000 00	64,644 00	58,870 48	-	323,514 48	334,546 03
15	Gloucester, ...	51,353 81	31,646 32	17,300 09	-	100,300 22	121,131 02
16	Haverhill & Groveland, . .	74,893 41	39,849 11	21,229 74	-	135,972 26	145,000 73
17	Holyoke, ...	56,242 91	25,253 82	817 84	-	82,314 57	83,789 54
18	Hoosac Valley, ...	107,822 63	13,175 74	7,100 00	-	128,098 37	131,067 94
19	Lowell, ...	165,992 06	79,837 58	34,580 93	-	280,410 57	286,765 47
20	Lowell & Dracut, ...	165,154 30	104,083 64	41,665 35	-	310,903 29	318,627 76
21	Lynn Belt, ...	81,161 40	56,720 51	18,651 21	3,200 00	159,733 12	167,068 01
22	Lynn & Boston, ...	568,268 16	328,942 23	176,474 15	-	1,073,684 54	1,111,261 76

23	Manet,	25,857 82	17,861 74	3,009 92	–	46,729 48	48,078 28
24	Malden & Melrose,	165,500 00	–	–	–	165,500 00	165,500 00
25	Marlborough,	47,288 93	53,977 39	4,669 09	349 96	106,285 37	109,711 69
26	Merrimack Valley,	48,840 00	30,000 00	37,600 00	–	116,440 00	118,508 81
27	Milford & Hopedale,	–	–	–	–	–	–
28	Naumkeag,	536,243 51	207,392 79	103,124 97	–	846,761 27	919,338 16
29	Nantucket Beach,	–	–	–	–	–	–
30	Nantucket Electric,	–	–	–	–	–	–
31	Natick & Cochituate,	21,550 00	7,417 50	4,000 00	–	32,967 50	41,268 87
32	Newton,	143,941 11	22,432 92	16,734 26	–	183,108 29	185,482 54
33	Newburyport & Amesbury,	230,982 18	69,510 64	34,926 77	–	335,419 59	343,044 59
34	Northampton,	36,000 00	11,500 00	20,925 50	–	68,425 50	68,447 91
35	North Woburn,	88,492 80	20,774 30	15,225 72	–	124,492 82	126,445 48
36	Onset,	6,952 57	7,094 15	431 90	–	14,478 62	15,715 44
37	Pittsfield,	28,239 28	15,802 46	5,771 34	1,325 11	51,138 19	51,880 55
38	Plum Island,	–	–	–	–	–	–
39	Plymouth & Kingston,	50,800 55	5,893 00	2,878 91	–	59,572 46	63,967 73
40	Quincy,	28,347 83	–	–	–	28,347 83	36,172 70
41	Quincy & Boston,	36,062 83	32,292 77	7,459 98	–	75,815 58	84,529 02
42	Somerville,	153,000 00	–	–	–	153,000 00	153,000 00
43	Springfield,	277,558 06	111,561 48	139,965 54	–	529,085 08	542,884 06
44	Taunton,	89,801 15	34,936 65	25,588 92	–	150,326 72	154,916 05
45	Union,	222,732 79	88,778 22	71,943 62	–	383,454 63	389,868 54
46	West End,	5,309,173 09	4,584,986 06	5,796,547 53	–	15,690,706 68	17,527,809 73
47	Winnisimmet,	50,000 00	–	–	–	50,000 00	50,244 85
48	Worcester Consolidated,	372,701 09	121,000 44	144,371 63	–	638,073 16	654,815 86
	Totals,	$10,615,898 61	$6,526,771 52	$6,984,878 24	$5,375 07	$24,132,923 44	$26,317,809 32

ABSTRACT OF STREET RAILWAY RETURNS — Continued.

	STREET RAILWAYS.	PROPERTY ACCOUNTS: ADDITIONS AND REDUCTIONS DURING THE YEAR.					
		14. — Construction.	15. — Equipment.	16. — Other Property.	17. — Total Additions.	18. — Reductions.	19. — Net Additions
1	Albany Street Freight, . .	-	-	-	-	-	-
2	Attleborough, North Attleborough & Wrentham,* . .	$65,051 68	$45,957 29	$4,685 23	$115,694 20	-	$115,694 20
3	Brockton, ...	34,052 66	8,084 80	1,859 85	43,997 31	-	43,997 31
4	Beverly & Danvers, . . .	-	-	748 17	748 17	-	748 17
5	Boston & Chelsea, . . .	-	-	-	-	-	-
6	Boston & Revere Electric, . .	2,601 89	2,150 00	468 42	5,220 31	-	5,220 31
7	Black Rocks & Salisbury Beach,	22,002 61	17,187 29	113,429 49	152,619 39	-	152,619 39
8	East Middlesex, ...	10,129 22	6,416 62	-	16,545 84	$8,255 88	8,289 96
9	East Side, ...	1,811 64	8,553 88	179 30	10,544 82	-	10,544 82
10	East Wareham, Onset Bay & Point Independence, . .	-	575 00	26 71	601 71	501 71	100 00
11	Essex Electric,*	38,155 09	25,279 39	11,825 00	75,259 48	-	75,259 48
12	Fitchburg, ...	2,682 81	3,502 63	494 63	6,680 07	2,784 63	3,895 44
13	Framingham Union, ...	5,520 89	651 25	80 94	6,253 08	600 00	5,653 08
14	Globe, ...	8,853 77	10,955 00	487 20	20,295 97	15,414 77	4,881 20
15	Gloucester, ...	-	1,885 21	-	1,885 21	600 00	1,285 21
16	Haverhill & Groveland, . .	2,077 88	750 00	-	2,827 88	3,375 00	547 12*d*
17	Holyoke, ...	6,822 89	2,425 41	161 27	9,409 57	100 00	9,309 57
18	Hoosac Valley, ...	-	42,760 48	-	42,760 48	36,241 14	6,519 34
19	Lowell, ...	3,352 60	17,574 29	2,824 16	23,751 05	-	23,751 05
20	Lowell & Dracut, ...	21,154 62	20,808 47	-	41,963 09	-	41,963 09
21	Lynn Belt,*	47,019 78	56,995 51	20,251 21	124,266 50	361 34	123,905 16
22	Lynn & Boston, ...	17,031 29	66,548 79	234 42	83,814 50	8 00	83,806 50

23	Manet,*	25,857 82	17,861 74	3,009 92	46,729 48	–	46,729 48
24	Malden & Melrose,	–	–	–	–	–	–
25	Marlborough,	3,250 30	1,740 52	286 95	5,277 77	–	5,277 77
26	Merrimack Valley,	4,840 00	–	–	4,840 00	–	4,840 00
27	Milford & Hopedale,	–	–	–	–	–	–
28	Naumkeag,	30,363 93	46,972 39	5,891 73	83,228 05	–	83,228 05
29	Nantucket Beach,	–	–	–	–	–	–
30	Nantucket Electric,	–	–	–	–	–	–
31	Natick & Cochituate,	–	175 00	–	175 00	–	175 00
32	Newton,	92,577 82	22,372 92	16,734 26	131,685 00	212 76	131,472 24
33	Newburyport & Amesbury,	65,438 42	8,095 06	200 00	73,733 48	–	73,733 48
34	Northampton,	1,000 00	–	–	1,000 00	–	1,000 00
35	North Woburn,	592 47	912 50	–	1,504 97	789 25	715 72
36	Onset,	465 77	–	50 03	515 80	6 00	509 80
37	Pittsfield,	–	1,535 00	–	1,535 00	220 00	1,315 00
38	Plum Island,	–	–	–	–	–	–
39	Plymouth & Kingston,	8,112 30	2,693 00	852 91	11,658 21	–	11,658 21
40	Quincy,	–	–	–	–	–	–
41	Quincy & Boston,	10,582 65	26,763 61	2,522 86	39,869 12	7,920 12	31,949 00
42	Somerville,	–	–	–	–	–	–
43	Springfield,	73,864 31	23,835 32	558 26	98,257 89	20,890 08	77,367 81
44	Taunton,	10,341 94	102 20	–	10,444 14	–	10,444 14
45	Union,	15,163 59	8,928 33	–	25,043 92	7,247 00	17,796 92
46	West End,	610,140 84	1,433,203 73	976,905 36	3,020,249 93	240,149 24	2,780,100 69
47	Winnisimmet,	–	–	–	–	–	–
48	Worcester Consolidated,	41,146 38	3,408 30	9,168 25	53,722 93	18,718 67	35,004 26

* Under construction during the year.

d Reduction.

ABSTRACT OF STREET RAILWAY RETURNS — Continued.

	STREET RAILWAYS.	Revenue for the Year.					
		20. — Passengers.	21. — Rents.	22. — Mail and Express.	23. — Sales of Manure.	24. — Other Sources.	25. — Total Income.
1	Albany Street Freight,	–[1]	–	–	–	$383 00	$383 00
2	Attleborough, North Attleborough & Wrentham,*	$23,084 60	–	–	–	131 02	23,215 62
3	Brockton,	89,949 40	$5 73	–	$792 02	535 66	91,282 81
4	Beverly & Danvers,	–[2]	660 00	–	–	–	660 00
5	Boston & Chelsea,	–[3]	7,260 00	–	–	–	7,260 00
6	Boston & Revere Electric,*	6,908 97	–	–	–	–	6,908 97
7	Black Rocks & Salisbury Beach,	31,862 74	–	–	80 00	2,165 52	34,108 26
8	East Middlesex,	82,939 05	113 79	–	707 19	608 96	84,368 99
9	East Side,*	12,697 85	–	–	–	118 61	12,816 46
10	East Wareham, Onset Bay & Point Independence,	2,348 92	–	$281 29	20 75	921 22	3,572 18
11	Essex Electric,	–[4]	–	–	–	–	–
12	Fitchburg,	30,961 92	–	–	238 11	202 50	31,402 53
13	Framingham Union,	19,089 96	–	150 87	107 50	147 25	19,495 58
14	Globe,	154,747 62	–	–	1,676 76	875 85	157,300 23
15	Gloucester,	34,436 23	–	–	162 50	853 79	35,452 52
16	Haverhill & Groveland,	56,801 94	–	–	260 50	663 52	57,725 96
17	Holyoke,	33,884 99	–	525 97	300 00	2,802 00	37,512 96
18	Hoosac Valley,*	30,143 73	–	221 14	14 75	527 00	30,906 62
19	Lowell,	114,354 20	1,064 52	–	667 49	96 66	116,182 87
20	Lowell & Dracut,	95,476 25	1,131 70	–	655 83	133 50	97,397 28
21	Lynn Belt,*	16,950 10	–	–	–	64 00	17,014 10
22	Lynn & Boston,	575,669 17	1,872 84	–	3,513 15	2,426 66	583,481 82

23	Manet,*	3,917 23	–	–	–	5 50	3,922 73
24	Malden & Melrose,	–[5]	–	–	–	–	–
25	Marlborough,*	16,018 65	–	–	–	102 88	16,121 53
26	Merrimack Valley,	79,250 50	–	–	780 75	350 04	80,381 29
27	Milford & Hopedale,	–[4]	–	–	–	–	–
28	Naumkeag,	228,503 73	–	–	1,892 06	1,396 46	231,792 25
29	Nantucket Beach,	–[4]	–	–	–	–	–
30	Nantucket Electric,	–[4]	–	–	–	–	–
31	Natick & Cochituate,	14,149 91	–	386 69	55 72	263 80	14,856 12
32	Newton,	16,685 02	–	50 00	125 00	60 00	16,920 02
33	Newburyport & Amesbury,	67,225 50	–	–	459 50	33 61	67,718 61
34	Northampton,	21,530 73	–	275 20	186 00	745 00	22,736 93
35	North Woburn,	19,495 48	87 61	–	180 97	45 00	19,809 06
36	Onset,	1,585 00	–	272 19	2 25	–	1,859 44
37	Pittsfield,	15,235 69	–	–	225 00	231 24	15,691 93
38	Plum Island,	–[6]	–	–	–	–	–
39	Plymouth & Kingston,*	17,171 95	–	–	–	127 60	17,299 55
40	Quincy,	–	2,367 72	–	–	–	2,367 72
41	Quincy & Boston,	28,503 49	–	–	–	533 29	29,036 78
42	Somerville,	–[5]	9,180 00	–	–	–	9,180 00
43	Springfield,	180,990 50	–	–	1,117 38	5,999 45	188,107 33
44	Taunton,	37,560 31	–	–	–	–	37,560 31
45	Union,	143,000 44	–	–	1,634 84	1,088 18	145,723 46
46	West End,	5,678,390 07	12,986 35	–	17,241 84	71,464 31	5,780,082 57
47	Winnisimmet,	–[7]	3,000 00	–	–	–	3,000 00
48	Worcester Consolidated,	232,474 66	–	–	1,751 48	1,172 95	235,399 09
	Totals,	$8,213,996 50	$39,730 26	$2,163 35	$34,849 34	$97,276 03	$8,388,015 48

---

[1] Used only for the transportation of freight.

[2] Operated by contractor with electricity, using the storage-battery system.

[3] Operated by the Lynn & Boston.

[4] Not in operation during the year.

[5] Leased to and operated by the West End.

[6] Purchased May 10, 1890, by the Black Rocks & Salisbury Beach.

[7] Leased to and operated by the Lynn & Boston.

* Operated with electricity.

ABSTRACT OF STREET RAILWAY RETURNS — Continued.

	STREET RAILWAYS.	Expenses for the Year.						
		26.—Repairs of Road-bed and Track.	**27.** — Repairs of Equipment.	**28.** — Repairs of Buildings.	**29.** — Renewal of Horses.	**30.** — Salaries, etc., General Office.	**31.** — Wages, etc., Employés.	**32.** — Provender.
1	Albany Street Freight, . . .	$1,542 35	-	-	-	-	-	-
2	Attleborough, North Attleborough & Wrentham, . .	171 11	$1,287 66	$86 47	-	$1,172 66	$5,698 93	-
3	Brockton, ...	8,335 82	3,909 85	130 22	$874 50	3,595 68	32,203 80	$13,679 26
4	Beverly & Danvers, . . .	-	-	-	-	-	-	-
5	Boston & Chelsea, . . .	-	-	-	-	-	-	-
6	Boston & Revere Electric, .	238 79	162 13	19 43	-	374 21	1,186 42	-
7	Black Rocks & Salisbury Beach,	500 00	1,155 65	-	-	1,500 00	8,023 98	4,136 19
8	East Middlesex, ...	2,486 28	5,296 70	245 01	3,491 96	2,616 53	33,521 44	12,862 08
9	East Side, ...	449 85	148 63	1,236 87	-	1,195 75	5,932 76	-
10	East Wareham, Onset Bay & Point Independence, . .	85 06	223 48	33 76	-	-	1,286 51	594 63
11	Essex Electric, ...	-	-	-	-	-	-	-
12	Fitchburg, ...	1,369 96	1,511 09	98 56	752 30	2,550 00	10,793 32	4,864 42
13	Framingham Union, . .	55 20	711 22	56 38		995 67	8,181 53	3,198 09
14	Globe, ...	10,767 53	8,997 68	547 42	5,110 01	5,225 00	52,655 18	21,806 96
15	Gloucester, ...	941 59	2,734 73	55 40	608 55	1,566 85	16,029 35	7,610 27
16	Haverhill & Groveland, . .	8,602 40	3,378 22	688 63	1,715 00	2,650 00	17,677 35	7,842 57
17	Holyoke, ...	370 56	2,869 71	57 76	820 00	1,816 00	12,212 33	6,798 84
18	Hoosac Valley, ...	214 15	325 66	180 72	-	2,383 20	8,138 26	1,328 79
19	Lowell, ...	2,039 52	6,786 25	108 97	1,620 00	5,250 00	59,195 83	20,008 84
20	Lowell & Dracut, . . .	2,443 07	7,759 05	488 88	421 50	2,500 00	39,322 59	9,679 73
21	Lynn Belt, ...	-	-	-	-	703 60	6,701 20	-
22	Lynn & Boston, ...	46,322 74	46,906 10	1,756 64	19,545 00	15,070 28	228,471 25	67,261 93

23	Manet,	15 28	34 25	-	-	200 00	846 37	-
24	Malden & Melrose,	-	-	-	-	-	-	-
25	Marlborough,	709 56	452 11	52 53	-	-	9,213 90	-
26	Merrimack Valley,	5,282 02	6,065 79	-	1,013 30	4,166 66	29,931 76	11,739 06
27	Milford & Hopedale,	-	-	-	-	-	-	-
28	Naumkeag,	6,089 48	12,481 12	927 08	6,757 50	5,770 89	87,392 21	33,541 45
29	Nantucket Beach,	-	-	-	-	-	-	-
30	Nantucket Electric,	-	-	-	-	-	-	-
31	Natick & Cochituate,	1,265 70	-	-	125 00	1,550 00	3,794 45	2,193 49
32	Newton,	766 89	1,082 86	109 63	206 30	398 92	6,860 53	2,657 11
33	Newburyport & Amesbury,	1,864 12	3,407 88	136 67	1,745 00	-	26,002 97	10,942 74
34	Northampton,	2,374 95	2,995 41	917 97	963 15	1,000 00	6,755 00	4,411 75
35	North Woburn,	462 55	1,536 07	247 53	401 75	1,627 34	7,729 02	3,619 58
36	Onset,	184 04	133 78	-	-	250 00	886 29	190 77
37	Pittsfield,	1,219 41	875 55	81 19	-	1,258 00	6,401 45	3,304 25
38	Plum Island,	-	-	-	-	-	-	-
39	Plymouth & Kingston,	141 50	371 69	-	-	1,383 34	5,583 53	-
40	Quincy,	-	-	-	-	125 00	-	-
41	Quincy & Boston,	736 87	1,336 60	-	-	2,572 80	7,637 95	239 92
42	Somerville,	-	-	-	-	-	-	-
43	Springfield,	6,404 56	12,505 36	1,810 17	4,528 00	7,000 00	75,081 35	31,930 14
44	Taunton,	1,441 55	3,461 53	153 20	839 54	1,750 00	11,653 16	8,392 55
45	Union,	2,348 97	10,732 51	2,719 47	4,256 19	4,279 00	52,806 06	21,770 03
46	West End,	285,053 96	323,082 30	72,164 85	143,904 46	77,568 43	2,188,440 18	490,883 39
47	Winnisimmet,	-	-	-	-	-	-	-
48	Worcester Consolidated,	5,890 04	18,482 57	2,885 10	11,256 25	9,151 00	75,462 60	34,687 11
	Totals,	$409,187 43	$493,201 19	$87,996 51	$210,955 26	$171,216 81	$3,149,710 81	$842,175 94

ABSTRACT OF STREET RAILWAY RETURNS — Continued.

	STREET RAILWAYS.	EXPENSES FOR THE YEAR — Concluded.						
		33.— Taxes.	34.— Rents.	35.— Insurance.	36.— Injuries to Persons and Property.	37.— Other Expenses.	38.— Total Expenses.	39.— Percentage Expenses to Earnings.
1	Albany Street Freight,	$222 90	–	–	–	$29 58	$1,794 83	–
2	Attleborough, North Attleborough & Wrentham,	326 34	–	$250 00	$5 00	3,968 74	12,966 91	56
3	Brockton,	2,499 08	–	1,137 74	63 00	2,163 61	68,592 56	75
4	Beverly & Danvers,	–	–	–	–	–	–	–
5	Boston & Chelsea,	–	–	–	–	–	–	–
6	Boston & Revere Electric,	148 51	–	127 49	318 65	2,639 78	5,215 41	75
7	Black Rocks & Salisbury Beach,	684 31	–	560 21	–	1,061 44	17,621 78	52
8	East Middlesex,	2,509 24	$2,187 12	1,562 64	3,087 28	4,251 17	74,117 45	88
9	East Side,	7 12	–	27 50	15 00	3,757 86	12,771 34	–
10	East Wareham, Onset Bay & Point Independence,	88 16	–	52 50	–	252 92	2,617 02	–
11	Essex Electric,	–	–	–	–	–	–	–
12	Fitchburg,	981 35	–	182 33	337 00	2,155 26	25,595 59	82
13	Framingham Union,	471 04	–	228 00	150 00	1,194 29	15,241 42	78
14	Globe,	5,810 28	–	1,633 25	2,214 98	8,205 06	122,973 35	78
15	Gloucester,	451 80	–	–	20 00	1,261 19	31,279 73	88
16	Haverhill & Groveland,	1,965 26	–	37 50	36 85	2,753 89	47,347 67	82
17	Holyoke,	649 11	–	223 78	80 00	1,642 55	27,540 64	79
18	Hoosac Valley,	138 78	–	209 26	351 00	6,209 51	19,479 33	63
19	Lowell,	2,102 08	1,131 70	1,295 98	1,012 11	8,232 14	108,733 42	94
20	Lowell & Dracut,	1,134 69	1,064 52	1,850 20	2,186 62	13,317 81	82,168 66	84
21	Lynn Belt,	–	–	86 25	54 84	3,100 20	10,646 09	–
22	Lynn & Boston,	9,597 01	25,028 72	4,234 13	5,249 58	36,552 73	505,996 11	87

23	Manet,	–	–	95 80	33 65	804 94	2,030 29	–
24	Malden & Melrose,	–	–	–	–	–	–	–
25	Marlborough,	483 58	–	50 00	4 50	1,710 01	12,676 19	79
26	Merrimack Valley,	1,424 14	–	941 75	–	3,518 43	64,082 91	80
27	Milford & Hopedale,	–	–	–	–	–	–	–
28	Naumkeag,	6,179 99	568 26	2,771 50	5,269 25	8,928 82	176,677 55	76
29	Nantucket Beach,	–	–	–	–	–	–	–
30	Nantucket Electric,	–	–	–	–	–	–	–
31	Natick & Cochituate,	422 95	–	138 00	–	541 95	10,031 54	68
32	Newton,	20 97	–	858 70	34 75	1,311 98	14,308 64	85
33	Newburyport & Amesbury,	1,510 89	–	666 00	752 50	7,038 15	54,066 92	80
34	Northampton,	170 87	–	271 75	650 19	924 90	21,435 94	94
35	North Woburn,	1,110 12	71 93	237 12	77 94	1,314 63	18,435 58	93
36	Onset,	70 26	–	67 50	–	76 47	1,859 11	–
37	Pittsfield,	403 37	–	17 88	–	1,336 93	14,898 03	–
38	Plum Island,	–	–	–	–	–	–	–
39	Plymouth & Kingston,	206 08	–	67 13	11 50	5,864 99	13,629 76	74
40	Quincy,	555 22	–	–	–	–	680 22	–
41	Quincy & Boston,	527 52	2,367 72	139 75	39 45	8,520 14	24,118 72	83
42	Somerville,	–	–	–	–	–	–	–
43	Springfield,	6,989 04	–	1,803 83	5,192 10	4,390 13	157,634 68	84
44	Taunton,	1,113 97	–	577 75	–	1,921 40	31,304 65	83
45	Union,	4,503 54	–	1,330 36	6,101 56	5,854 80	116,702 49	80
46	West End,	222,377 80	12,465 46	35,517 25	158,735 60	458,175 07	4,468,368 75	77
47	Winnisimmet,	–	–	–	–	–	–	–
48	Worcester Consolidated,	7,121 96	–	1,519 38	825 00	11,100 63	178,381 64	76
	Totals,	$284,979 33	$44,885 43	$60,770 21	$192,909 90	$626,084 10	$6,574,072 92	78

ABSTRACT OF STREET RAILWAY RETURNS — Continued.

	STREET RAILWAYS.	Net Income, Interest, Dividends, etc.						
		40. — Net Income.	**41.** — Interest Accrued.	**42.** — Dividends Declared.	**43.** — Per Cent.	**44.** — Balance for the Year.	**45.** — Surplus last Year	**46.** — Surplus Sept. 30, 1890.
1	Albany Street Freight,	$1,411 83*d*	–	–	–	$1,411 83*d*	$176 32	$1,235 51*d*
2	Attleborough, North Attleborough & Wrentham,	10,248 71	$1,041 65	$6,000 00	10	3,207 06	–	3,207 06
3	Brockton,	22,690 25	4,828 42	15,000 00	10	2,861 83	13,865 79	16,727 62
4	Beverly & Danvers,	660 00	265 00	–	–	395 00	–	395 00
5	Boston & Chelsea,	7,260 00	–	7,260 00	6	–	–	–
6	Boston & Revere Electric,	1,693 56	1,286 55	–	–	407 01	512 15	919 16
7	Black Rocks & Salisbury Beach,	16,486 48	3,380 55	6,500 00	10[4]	6,605 93	9,560 82	16,166 75
8	East Middlesex,	10,251 54	9,867 81	–	–	383 73	4,808 77	5,192 50
9	East Side,	45 12	–	–	–	45 12	685 86*d*	640 74*d*
10	East Wareham, Onset Bay & Point Independence,	955 16	–	–	–	955 16	799 22[2]	1,754 38
11	Essex Electric,	–	–	–	–	–	–	–
12	Fitchburg,	5,806 94	850 00	3,600 00	6	1,356 94	4,522 85[3]	5,879 79
13	Framingham Union,	4,254 16	2,513 74	–	–	1,740 42	3,922 74	5,663 16
14	Globe,	34,326 88	203 44	18,000 00	6	16,123 44	9,203 35[6]	25,326 79
15	Gloucester,	4,172 79	2,150 00	–	–	2,022 79	3,561 07*d*	1,538 28*d*
16	Haverhill & Groveland,	10,378 29	–	8,640 00	6	1,738 29	737 56*d*	1,000 73
17	Holyoke,	9,972 32	430 63	1,500 00	3	8,041 69	9,247 85	17,289 54
18	Hoosac Valley,	11,427 29	3,118 50	–	–	8,308 79	[13]7,240 85*d*	1,067 94
19	Lowell,	7,399 45	6,859 69	4,023 00	6	3,483 24*d*	49,667 76	46,184 52
20	Lowell & Dracut,	15,228 62	7,888 95	6,141 00	6	1,198 67	7,365 03	8,563 70
21	Lynn Belt,	6,368 01	–	–	–	6,368 01	–	6,368 01
22	Lynn & Boston,	77,485 71	26,834 70	32,000 00	8[10]	18,651 01	64,446 65	83,097 66
23	Manet,	1,892 44	–	–	–	1,892 44	–	1,892 44
24	Malden & Melrose,	–	–	–	–	–	–	–
25	Marlborough,	3,445 34	2,250 00	500 00	1	695 34	2,068 46	2,763 80
26	Merrimack Valley,	16,298 38	915 89	6,400 00	8	8,982 49	8,026 32	17,008 81
27	Milford & Hopedale,	–	–	–	–	–	–	–

28	Naumkeag,	55,114 70	30,926 81	15,000 00	6	9,187 89	817 22[14]	10,005 11
29	Nantucket Beach,	–	–	–	–	–	–	–
30	Nantucket Electric,	–	–	–	–	–	–	–
31	Natick & Cochituate,	4,824 58	–	1,500 00	6	3,324 58	12,455 95	15,780 53
32	Newton,	2,611 38	–	2,000 00	4	611 38	750 66	1,362 04
33	Newburyport & Amesbury,	13,651 69	9,368 80	2,398 00	2	1,884 89	6,144 58[11]	8,029 47
34	Northampton,	1,300 99	1,529 42	–	–	228 43*d*	11,506 19*d*	11,734 62*d*
35	North Woburn,	1,373 48	1,419 27	–	–	45 79*d*	979 35*d*	1,025 14*d*
36	Onset,	33	–	–	–	33	1,395 11	1,395 44
37	Pittsfield,	793 90	–	–	–	793 90	5,523 35*d*	4,729 45*d*
38	Plum Island,	–	–	–	–	–	–	–
39	Plymouth & Kingston,	3,669 79	1,246 79	–	–	2,423 00	[5]13,955 27*d*	11,532 27*d*
40	Quincy,	1,687 50	–	1,674 00	4½	13 50	1,050 28*d*	1,036 78*d*
41	Quincy & Boston,	4,918 06	450 00	–	–	4,468 06	2,236 09	6,704 15
42	Somerville,	9,180 00	–	9,180 00	6	–	–	–
43	Springfield,	30,472 65	–	30,000 00	8	472 65	65,903 61[1]	66,376 26
44	Taunton,	6,255 66	2,008 49	4,000 00	4	247 17	10,668 88	10,916 05
45	Union,	29,020 97	5,134 55	15,588 00	6[7]	8,298 42	9,965 18[8]	17,863 60
46	West End,	1,311,713 82	244,503 46	737,000 00	–*	330,210 36	25,347 92[12]	355,558 28
47	Winnisimmet,	3,000 00	–	3,000 00	6	–	123 35	123 35
48	Worcester Consolidated,	57,017 45	12,553 93	26,250 00	7½	18,213 52	[9]5,004 49*d*	13,209 03
	Totals,	$1,813,942 56	$383,827 04	$963,154 00	–	$466,961 52	$273,358 36	$740,319 88

---

[1] Surplus at commmencement of year, . $85.114 03
Deduct:
Construction reduced in value, $11,688 73
Car equipment " " 8,438 81
Sundry " " " 762 54
$20,890 08
Add: Unredeemed tickets, 1,679 66
19,210 42
$65,903 61

[2] Deducted for depreciation, $226.71.

[3] Deducted for depreciation, $1,086.33.

[4] On $65,000 of capital stock.

[5] Deducted $17,359.54 for loss on sale of $35,000 bonds at a discount.

[6] Deducted for depreciation, $13,248.77.

[7] On $259,800 of capital stock.

[8] Surplus at commencement of year, . . $30,746 46
Deduct:
Acushnet St. Railw'y bills paid, $300 00
Reduction in value of horses, . 5,232 00
Dividend paid Oct. 1, 1889, on $259,700 capital stock from earnings of previous year, . 15,582 00
Loss through insolvent debtor, 26 38
Loss by safe robbery Oct. 11, 1888, ... 43 90
$21,184 28
Add: Discount on old account, 3 00
21,181 28
$9,565 18

[9] Deducted $18,213.52 for depreciation.

[10] On $400,000 of capital stock.

[11] Deducted $6,392.57 for old account charged off.

[12] Deducted $312,489.55 for sundry items, viz:
Illegally issued South Boston R. R. stock, purchased for . . . $5,456 65
Claims prior to consolidation paid during the year, ... 24,754 14
Uncollectible accounts, . . . 80 86
Track reconstruction, . . . 282,197 90
$312,489 55

[13] Deducted $13,342.84 for depreciation.

[14] Deducted $34,923.11 for sundry accounts charged off.

* Eight per cent. on preferred stock, . $512,000 00
Ten per cent. on common stock, . . 225,000 00
$737,000 00

d Deficit.

ABSTRACT OF STREET RAILWAY RETURNS — Continued.

	STREET RAILWAYS.	EQUIPMENT.				LENGTH OF ROAD.		
		47. — Cars.	48. — Other Vehicles.	49. — Horses.	50. — Harnesses.	51. — Main Line.	52. Sidings.	53. — Total Length.
1	Albany Street Freight,	–	–	–	–	.856	.076	.932
2	Attleborough, North Attleborough & Wrentham,	5	–	1	–	6.000	.360	6.360
3	Brockton,	39	–	179	36	12.755	.903	13.658
4	Beverly & Danvers,	–	–	–	–	3.090	.120	3.210
5	Boston & Chelsea,	–	–	–	–	4.116	.038	4.154
6	Boston & Revere Electric,	9	–	–	–	3.800	.430	4.230
7	Black Rocks & Salisbury Beach,	34	–	100	35	21.000	.200	21.200
8	East Middlesex,	58	3	204	51	15.120	1.010	16.130
9	East Side,	7	–	–	–	4.250	.250	4.500
10	East Wareham, Onset Bay & Point Independence,	5	1	8	7	1.666	.113	1.779
11	Essex Electric,	12	–	1	1	3.910	.280	4.190
12	Fitchburg,	13	1	53	25	6.297	.392	6.689
13	Framingham Union,	14	–	38	19	6.912	.441	7.353
14	Globe,	66	5	288	90	16.773	.609	17.382
15	Gloucester,	18	–	77	45	5.030	.350	5.380
16	Haverhill & Groveland,	38	5	94	51	12.561	1.466	14.027
17	Holyoke,	18	1	64	15	5.898	.703	6.601
18	Hoosac Valley,	11	1	8	14	5.953	.279	6.232
19	Lowell,	55	2	216	49	12.529	.942	13.471
20	Lowell & Dracut,	50	–	134	35	12.738	.933	13.671
21	Lynn Belt,	10	–	–	–	6.290	.400	6.690
22	Lynn & Boston,	242	5	952	260	50.393	3.350	53.743

23	Manet, ...	4	–	–	–	3.600	.150	3.750
24	Malden & Melrose, . . .	–	–	–	–	6.287	.473	6.760
25	Marlborough, ...	6	–	–	–	2.939	.383	3.322
26	Merrimack Valley, . . .	37	4	147	20	9.810	1.000	10.810
27	Milford & Hopedale, . . .	–	–	–	–	–	–	–
28	Naumkeag, ...	110	23	404	170	33.360	4.544	37.904
29	Nantucket Beach, ...	–	–	–	–	–	–	–
30	Nantucket Electric, . . .	–	–	–	–	–	–	–
31	Natick & Cochituate, . . .	7	4	24	5	3.000	.200	3.200
32	Newton, ...	17	3	4	6	5.480	.300	5.780
33	Newburyport & Amesbury, .	30	4	129	45	15.597	1.487	17.084
34	Northampton, ...	9	2	58	15	3.200	.200	3.400
35	North Woburn, ...	11	–	53	12	7.340	.210	7.550
36	Onset, ...	6	–*	1	1	1.675	.125	1.800
37	Pittsfield, ...	10	–	40	15	3.300	.320	3.620
38	Plum Island, ...	–	–	–	–	–	–	–
39	Plymouth & Kingston, . .	8	–	–	–	4.250	.250	4.500
40	Quincy, ...	–	–	–	–	4.260	.260	4.520
41	Quincy & Boston, ...	15	–	1	4	3.300	.114	3.414
42	Somerville, ...	–	–	–	–	4.879	.526	5.405
43	Springfield, ...	74	6	280	50	20.750	.650	21.400
44	Taunton, ...	23	–	88	24	8.093	1.963	10.056
45	Union, ...	72	3	262	55	14.513	1.614	16.127
46	West End, ...	2,031	487	6,927	2,341	217.720	2.730	239.450
47	Winnisimmet, ...	–	–	–	–	1.884	.131	2.015
48	Worcester Consolidated, . .	73	7	406	72	19.210	1.196	20.406
	Totals, ...	3,247	567	11,241	3,568	612.384	51.471	663.855

* Two Baldwin Street Car Motors.

ABSTRACT OF STREET RAILWAY RETURNS — Continued.

	STREET RAILWAYS.	MILEAGE, ETC.					ACCIDENTS.	
		54. — Miles run.	55. — Passengers Carried.	56. — Round Trips.	57. — Average No. of Passengers per Round Trip.	58. — Persons Employed.	59. — Fatal.	60. — Injured.
1	Albany Street Freight, . .	–	–	–	–	–	–	–
2	Attleborough, North Attleborough & Wrentham, . .	92,400	465,713	7,702	60	14	1	1
3	Brockton, ...	342,513	1,951,197	44,271	44	70	–	2
4	Beverly & Danvers, . .	–	–	–	–	–	–	–
5	Boston & Chelsea, . . .	–	–	–	–	–	–	–
6	Boston & Revere Electric, .	45,653	138,597	6,007	23	13	1	–
7	Black Rocks & Salisbury Beach,	94,250	340,000	7,854	43	30	–	1
8	East Middlesex, . . .	298,976	1,444,660	30,326	48	65	–	2
9	East Side, ...	74,340	259,509	8,746	30	9	–	3
10	East Wareham, Onset Bay & Point Independence, . .	5,441	27,394	1,633	–	5	–	–
11	Essex Electric, ...	–	–	–	–	–	–	–
12	Fitchburg, ...	126,338	509,143	27,744	18	24	–	4
13	Framingham Union, . .	65,676	337,000	12,369	28	13	–	–
14	Globe, ...	499,219	3,143,212	104,850	62	109	1	5
15	Gloucester, ...	132,322	650,692	23,624	28	34	–	–
16	Haverhill & Groveland, . .	166,291	936,170	26,400	35	36	–	1
17	Holyoke, ...	125,182	693,419	22,920	30	30	–	4
18	Hoosac Valley, ...	117,450	561,832	9,787	57	15	–	4
19	Lowell, ...	536,213	2,287,084	67,264	34	135	–	6
20	Lowell & Dracut, . . .	452,445	1,896,308	64,307	29	90	–	9
21	Lynn Belt, ...	64,109	344,756	10,123	–	35	–	6
22	Lynn & Boston, ...	1,841,285	11,292,333	227,607	49	430	–	16

23	Manet,	3,700	41,780	1,028	–	6	–	1
24	Malden & Melrose,	–	–	–	–	–	–	–
25	Marlborough,	83,280	320,373	16,656	19	18	–	–
26	Merrimack Valley,	294,000	1,585,506	70,000	23	56	–	3
27	Milford & Hopedale,	–	–	–	–	–	–	–
28	Naumkeag,	630,176	4,475,950	130,090	34	170	–	7
29	Nantucket Beach,	–	–	–	–	–	–	–
30	Nantucket Electric,	–	–	–	–	–	–	–
31	Natick & Cochituate,	41,256	236,847	6,876	35	8	–	–
32	Newton,	49,418	348,597	7,619	46	21	–	15
33	Newburyport & Amesbury,	223,547	1,336,658	19,614	67	55	–	8
34	Northampton,	67,102	307,143	10.485	30	15	–	–
35	North Woburn,	94,540	381,948	7,960	48	17	–	–
36	Onset,	2,627	17,794	1,051	–	4	1	–
37	Pittsfield,	40,424	306,167	3,069	–	14	–	–
38	Plum Island,	–	–	–	–	–	–	–
39	Plymouth & Kingston,	36,248	348,646	8,529	41	7	–	–
40	Quincy,	–	–	–	–	–	–	–
41	Quincy & Boston,	99,997	579,347	21,804	26	15	–	3
42	Somerville,	–	–	–	–	–	–	–
43	Springfield,	683,991	3,628,008	114,268	32	156	1	4
44	Taunton,	175,434	767,292	36,913	21	95	–	–
45	Union,	538,829	3,235,116	119,302	27	109	–	6
46	West End,	17,665,360	114,853,081	2,344,570	49	4,148	15	239
47	Winnisimmet,	–	–	–	–	–	–	–
48	Worcester Consolidated,	706,905	4,851,574	141,448	34	175	–	2
	Totals,	26,516,937	164,873,846	3,764,816	44	6,246	20	352

COMPARATIVE STATEMENTS FROM STREET RAILWAY RETURNS.

	STREET RAILWAYS.	PER MILE OF ROAD OWNED.			PER MILE OF ROAD OPERATED.			
		61. — Capital Stock Paid in.	**62.** — Net Debt.	**63** — Cost of Construction.	**64.** — Cost of Equipment.	**65.** — Repairs of Road-bed and Track.	**66.** — Repairs of Equipment.	**67.** — Renewals of Horses.
1	Albany Street Freight, . .	–	–	–	–	–	–	–
2	Attleborough, North Attleborough & Wrentham, . . .	$10,000 00	$8,574 25	$10,841 95	$7,659 55	$28 52	$214 61	–
3	Brockton, ...	11,760 00	11,493 99	16,729 79	4,800 70	653 53	306 53	$68 56
4	Beverly & Danvers, . . .	–	–	–	–	–	–	–
5	Boston & Chelsea, . . .	29,397 47	–	29,397 47	–	–	–	–
6	Boston & Revere Electric, . .	13,157 89	8,981 86	18,514 64	2,581 58	62 84	42 67	–
7	Black Rocks & Salisbury Beach,	5,952 38	5,023 69	8,460 89	1,790 51	23 81	55 03	–
8	East Middlesex, ...	13,227 51	11,019 91	14,913 82	4,413 62	125 19	266 70	175 83
9	East Side, ...	10,588 24	4,947 34	7,478 90	7,288 33	105 85	–	–
10	East Wareham, Onset Bay & Point Independence, . .	–	–	–	–	–	–	–
11	Essex Electric, ...	–	–	–	–	–	–	–
12	Fitchburg, ...	9,528 35	4,497 25	11,040 07	2,967 29	217 56	239 97	119 47
13	Framingham Union, . . .	8,680 56	7,069 89	12,263 75	2,760 13	–	102 90	–
14	Globe, ...	17,885 89	–	11,923 93	3,854 05	641 96	536 44	304 66
15	Gloucester, ...	11,928 43	8,317 79	10,209 51	6,291 51	187 19	543 68	120 98
16	Haverhill & Groveland, . .	11,464 06	–	5,962 38	3,172 45	684 85	268 95	136 53
17	Holyoke, ...	8,477 45	2,547 48	9,535 93	4,281 76	62 83	486 56	139 03
18	Hoosac Valley, ...	8,399 13	12,939 77	18,112 32	2,213 30	35 97	–	–
19	Lowell, ...	7,981 48	10,713 23	13,248 63	5,707 17	145 80	485 11	115 81
20	Lowell & Dracut, . . .	15,701 05	8,034 20	12,965 48	7,330 87	172 07	546 49	29 69
21	Lynn Belt, ...	–	–	–	–	–	–	–
22	Lynn & Boston, ...	9,922 60	9,735 80	11,277 40	5,454 19	768 08	777 75	324 07

23	Manet,	-	-	-	-	-	-	-
24	Malden & Melrose,	-	-	-	-	-	-	-
25	Marlborough,	17,012 59	18,210 81	16,090 14	18,365 90	-	-	-
26	Merrimack Valley,	8,154 94	1,980 75	4,978 60	3,058 10	538 43	618 33	103 29
27	Milford & Hopedale,	-	-	-	-	-	-	-
28	Naumkeag,	7,494 00	17,588 61	16,074 45	6,216 81	182 54	374 13	202 56
29	Nantucket Beach,	-	-	-	-	-	-	-
30	Nantucket Electric,	-	-	-	-	-	-	-
31	Natick & Cochituate,	8,334 34	-	7,183 34	2,472 50	421 90	-	41 67
32	Newton,	18,248 18	14,917 20	26,266 63	4,093 60	139 94	197 60	-
33	Newburyport & Amesbury,	7,693 79	13,296 80	14,809 40	4,456 67	119 52	218 50	111 88
34	Northampton,	15,625 00	9,425 04	11,250 00	3,593 75	742 17	936 07	300 99
35	North Woburn,	13,623 98	3,476 56	12,056 24	2,663 37	59 30	196 93	51 51
36	Onset,	-	-	-	-	-	-	-
37	Pittsfield,	-	-	-	-	-	-	-
38	Plum Island,	-	-	-	-	-	-	-
39	Plymouth & Kingston,	8,235 29	9,529 41	11,953 07	1,386 59	33 29	87 46	-
40	Quincy,	8,732 39	-	6,654 42	-	-	-	-
41	Quincy & Boston,	15,151 52	5,791 34	10,928 13	4,271 53	97 49	176 80	-
42	Somerville,	31,358 90	-	31,358 90	-	-	-	-
43	Springfield,	19,277 11	3,022 11	13,376 29	5,376 46	308 65	602 67	218 22
44	Taunton,	12,356 36	4,869 72	11,096 15	4,316 90	178 12	427 72	103 75
45	Union,	17,914 97	7,275 62	15,347 12	6,117 15	161 85	739 51	293 27
46	West End,	45,430 59	25,004 59	24,385 32	19,535 53	1,214 55	1,376 57	613 14
47	Winnisimmet,	26,544 91	-	26,544 91	-	-	-	-
48	Worcester Consolidated,	18,219 68	14,308 39	19,401 41	6,298 83	306 61	962 13	585 96
	Averages,	$24,312 30	$13,967 28	$17,352 78	$10,476 36	$656 80	$791 65	$338 61

COMPARATIVE STATEMENTS FROM STREET RAILWAY RETURNS — Continued.

	STREET RAILWAYS.	GROSS INCOME.				EXPENSES.	
		68. — Per Mile Operated.	**69.** — Per Round Trip.	**70.** — Per Mile Run.	**71.** — Per Passenger Carried.	**72.** — Per Mile Operated.	**73.** — Per Round Trip.
1	Albany Street Freight,	–	–	–	–	–	–
2	Attleborough, North Attleborough & Wrentham,	$3,869 27	$3 01	$0.2523	$0.0498	$2,161 15	$1 68
3	Brockton,	7,156 63	2 08	.2661	.0468	5,377 70	1 56
4	Beverly & Danvers,	–	–	–	–	–	–
5	Boston & Chelsea,	–	–	–	–	–	–
6	Boston & Revere Electric,	1,818 15	1 15	.1502	.0497	1,372 48	87
7	Black Rocks & Salisbury Beach,	1,624 20	4 34	.3619	.1003	839 13	2 24
8	East Middlesex,	4,248 19	2 81	.2822	.0584	3,731 99	2 47
9	East Side,	3,076 39	1 50	.1767	.0503	2,936 00	1 43
10	East Wareham, Onset Bay & Point Independence,	–	–	–	–	–	–
11	Essex Electric,	–	–	–	–	–	–
12	Fitchburg,	4,986 90	1 12	.2492	.0617	4,064 73	91
13	Framingham Union,	2,820 54	1 62	.2954	.0579	2,205 07	1 27
14	Globe,	9,378 18	1 50	.3146	.0501	7,331 62	1 17
15	Gloucester,	7,048 21	1 48	.2686	.0349	6,218 63	1 30
16	Haverhill & Groveland,	4,595 65	2 19	.3477	.0617	3,769 42	1 79
17	Holyoke,	5,885 21	1 51	.2777	.0501	4,669 49	1 20
18	Hoosac Valley,	5,191 77	3 15	.2641	.0550	3,272 19	1 99
19	Lowell,	8,305 29	1 73	.2167	.0508	7,776 35	1 62
20	Lowell & Dracut,	6,859 93	1 52	.2155	.0521	5,787 34	1 28
21	Lynn Belt,	–	–	–	–	–	–
22	Lynn & Boston,	9,674 71	2 56	.3169	.0517	8,389 92	2 22
23	Manet,	–	–	–	–	–	–
24	Malden & Melrose,	–	–	–	–	–	–

25	Marlborough,	5,485 38	95	.1942	.0504	4,313 09	75
26	Merrimack Valley,	8,193 81	1 15	.2734	.0507	6,532 41	91
27	Milford & Hopedale,	–	–	–	–	–	–
28	Naumkeag,	6,948 21	1 78	.3679	.0518	5,296 09	1 36
29	Nantucket Beach,	–	–	–	–	–	–
30	Nantucket Electric,	–	–	–	–	–	–
31	Natick & Cochituate,	4,952 04	2 15	.3623	.0627	3,343 84	1 45
32	Newton,	3,087 59	2 22	.3453	.0485	2,611 06	1 88
33	Newburyport & Amesbury,	4,341 77	3 39	.3023	.0506	3,466 50	2 71
34	Northampton,	7,105 29	2 27	.3394	.0741	6,698 73	2 14
35	North Woburn,	2,539 62	2 49	.2085	.0519	2,363 53	2 32
36	Onset,	–	–	–	–	–	–
37	Pittsfield,	–	–	–	–	–	–
38	Plum Island,	–	–	–	–	–	–
39	Plymouth & Kingston,	4,070 48	2 03	.4805	.0496	3,207 00	1 60
40	Quincy,	–	–	–	–	–	–
41	Quincy & Boston,	3,840 85	1 32	.2903	.0501	3,190 31	1 10
42	Somerville,	–	–	–	–	–	–
43	Springfield,	9,065 41	1 65	.2750	.0518	7,596 85	1 38
44	Taunton,	4,641 08	1 02	.2146	.0490	3,868 11	85
45	Union,	10,040 99	1 22	.2704	.0450	8,041 24	98
46	West End,	24,627 54	2 46	.3272	.0503	19,038 64	1 90
47	Winnisimmet,	–	–	–	–	–	–
48	Worcester Consolidated,	12,253 99	1 67	.3330	.0486	9,285 88	1 27
	Averages,	$13,463 91	$2 23	$0.3163	$0.0509	$10,552 29	$1 75

COMPARATIVE STATEMENTS OF STREET RAILWAY RETURNS — Concluded.

	STREET RAILWAYS.	EXPENSES — Concluded.		NET INCOME.			
		74. — Per Mile Run.	75.—Per Passenger Carried.	76. — Per Mile Operated.	77.— Per Round Trip.	78.—Per Mile Run.	79.—Per Passenger Carried.
1	Albany Street Freight,	–	–	–	–	–	–
2	Attleborough, North Attleborough & Wrentham,	$0.1409	$0.0278	$1,708 12	$1.33	$0.1114	$0.0220
3	Brockton,	.2000	.0352	1,778 93	.52	.0661	.0116
4	Beverly & Danvers,	–	–	–	–	–	–
5	Boston & Chelsea,	–	–	–	–	–	–
6	Boston & Revere Electric,	.1134	.0375	445 67	.28	.0368	.0122
7	Black Rocks & Salisbury Beach,	.1869	.0518	785 07	2.10	.1750	.0485
8	East Middlesex,	.2479	.0513	516 19	.34	.0343	.0071
9	East Side,	.1686	.0480	140 39	.07	.0081	.0023
10	East Wareham, Onset Bay & Point Independence,	–	–	–	–	–	–
11	Essex Electric,	–	–	–	–	–	–
12	Fitchburg,	.2031	.0503	922 17	.21	.0461	.0114
13	Framingham Union,	.2310	.0452	615 47	.35	.0644	.0127
14	Globe,	.2459	.0391	2,046 56	.33	.0687	.0110
15	Gloucester,	.2370	.0329	829 58	.18	.0316	.0020
16	Haverhill & Groveland,	.2852	.0506	826 23	.40	.0625	.0111
17	Holyoke,	.2203	.0397	1,215 72	.31	.0574	.0104
18	Hoosac Valley,	.1665	.0346	1,919 58	1.16	.0976	.0204
19	Lowell,	.2030	.0475	528 94	.11	.0137	.0033
20	Lowell & Dracut,	.1818	.0440	1,072 59	.24	.0337	.0081
21	Lynn Belt,	–	–	–	–	–	–
22	Lynn & Boston,	.2748	.0448	1,284 79	.34	.0421	.0069
23	Manet,	–	–	–	–	–	–
24	Malden & Melrose,	–	–	–	–	–	–

25	Marlborough,	.1527	.0396	1,172 29	.20	.0415	.0108
26	Merrimack Valley,	.2180	.0404	1,661 40	.24	.0554	.0103
27	Milford & Hopedale,	–	–	–	–	–	–
28	Naumkeag,	.2804	.0395	1,652 12	.42	.0875	.0123
29	Nantucket Beach,	–	–	–	–	–	–
30	Nantucket Electric,	–	–	–	–	–	–
31	Natick & Cochituate,	.2446	.0423	1,608 20	.70	.1177	.0204
32	Newton,	.2919	.0410	476 53	.34	.0534	.0075
33	Newburyport & Amesbury,	.2414	.0404	875 27	.68	.0609	.0102
34	Northampton,	.3199	.0698	406 56	.13	.0195	.0043
35	North Woburn,	.1940	.0483	176 09	.17	.0145	.0036
36	Onset,	–	–	–	–	–	–
37	Pittsfield,	–	–	–	–	–	–
38	Plum Island,	–	–	–	–	–	–
39	Plymouth & Kingston,	.3786	.0391	863 48	.43	.1019	.0105
40	Quincy,	–	–	–	–	–	–
41	Quincy & Boston,	.2411	.0416	650 54	.22	.0492	.0085
42	Somerville,	–	–	–	–	–	–
43	Springfield,	.2305	.0434	1,468 56	.27	.0445	.0084
44	Taunton,	.1789	.0408	772 97	.17	.0357	.0082
45	Union,	.2165	.0361	1,999 65	.24	.0539	.0089
46	West End,	.2530	.0389	5,588 90	.56	.0742	.0114
47	Winnisimmet,	–	–	–	–	–	–
48	Worcester Consolidated,	.2523	.0368	2,968 11	.40	.0807	.0118
	Averages,	$0.2479	$0.0399	$2,911 62	$0.48	$0.0684	$0.0110

TABULATED STATEMENT

COMPILED FROM

RETURNS OF RAILROADS.

RAILROADS AND BRANCHES. (BRANCHES IN ITALICS.)	WHERE LOCATED.		LENGTH.		DOUBLE TRACK.		SIDINGS.		7.—Total length computed as single track.
	From.	To.	1.—Total.	2.—In Mass.	3.—In Mass.	4.—Out of Mass.	5.—In Mass.	6.—Out of Mass.	
ATTLEBOROUGH BRANCH. (See *Old Colony*),	–	–	–	–	–	–	–	–	–
BERKSHIRE. (See *Housatonic*),	–	–	–	–	–	–	–	–	–
BOSTON & ALBANY,	Boston,	Albany, N. Y.,	201.650	162.350	181.310*	39.300	185.790	34.000	762.290
Athol,	Springfield,	Athol,	46.550	46.550	–	–	–	–	–
Grand Junction,	Cottage Farm,	East Boston,	9.450	9.450	5.110	–	–	–	–
Newton Lower Falls,	Riverside Jct.,	Newton L Falls,	1.100	1.100	–	–	–	–	–
Newton Highlands,	Beacon St., Boston,	Riverside Jct.,	9.930	9.930	9.890	–	–	–	–
Saxonville,	Natick,	Saxonville,	3.700	3.700	–	–	–	–	–
Milford,	S. Framingham,	Milford,	12.	12.	–	–	–	–	–
Millbury,	Millbury Jct.,	Millbury Village,	3.	3.	–	–	–	–	–
Spencer,	Spencer,	B. & A. R.R.,	2.180	2.180	–	–	–	–	–
Chatham & Hudson,	Chatham, N. Y.,	Hudson, N. Y.,	17.330	–	–	1.	–	–	–
North Brookfield,	E. Brookfield,	No. Brookfield,	4.160	4.160	–	–	.490	–	4.650
Pittsfield & North Adams,	Pittsfield,	North Adams,	18.550	18.550	–	–	6.	–	24.550
Prov, Webster & Springfield,	North Webster,	Auburn Station,	11.020	11.020	–	–	1.740	–	13.930
Webster Mills,	Webster Mills,	East Webster,	1.170	1.170	–	–	–	–	–
Ware River,	Palmer,	Winchendon,	49.350	49.350	–	–	6.110	–	55.460
BOSTON & LOWELL. (See *Boston & Maine*),	–	–	–	–	–	–	–	–	–
BOSTON & MAINE,	Boston,	Portland, Me,	115.500	78.200	64.670	34.990	136.	57.140	613.790
	Boston,	State Line, N.H.,	41.450						
	Conway Junct'n, N. H.,	N. Conway, N.H.,	72.860						
Medford,	Malden Jct.,	Medford,	2.	2.	–	–	–	–	–
Methuen,	Lawrence,	Methuen (State Line, N. H.),	3.750	3.750	1.	–	–	–	–
Great Falls,	Rollinsf'd, N.H.,	Gt. Falls, N. H.,	2.750	–	–	–	–	–	–
East Boston,	Revere,	East Boston,	3.470	3.470	1.560	–	–	–	–
Charlestown,	E. Somerville,	Charlestown,	1.090	1.090	1.090	–	–	–	–

Saugus,	Everett,	West Lynn,	9.550	9.550	–	–	–	–	–
Swampscott,	Swampscott,	Marblehead,	3.960	3.960	–	–	–	–	–
Marblehead,	Salem,	Marblehead,	3.520	3.520	–	–	–	–	–
Lawrence,	Salem,	Lawrence,	19.890	19.890	1.610	–	–	–	–
South Reading,	Peabody,	Wakefield Jct.,	8.120	8.120	–	–	–	–	–
Gloucester,	Beverly,	Rockport,	16.940	16.940	–	–	–	–	–
Essex,	Wenham,	Essex,	6.	6.	–	–	–	–	–
Asbury Grove,	Hamilton Sta'n,	Asbury Grove,	1.060	1.060	–	–	–	–	–
Salisbury,	Salisbury,	Amesbury,	3.790	3.790	–	–	–	–	–
Danvers,	Wakefield Jct.,	Danvers,	9.259	9.259	–	–	1.289	–	10.548
*Lowell & Andover,	Lowell,	Lowell Jct.,	8.730	8.730	8.730	–	3.940	–	22.770
Branch to Old Colony Railroad,	–	In Lowell,	1.150	1.150	–	–	–	–	–
Branch to Boston & Lowell Railroad,	–	In Lowell,	.220	.220	–	–	–	–	–
Newburyport,	Bradford,	Newburyport,	26.979	26.979	–	–	3.132	–	30.111
	Georgetown,	Danvers,							
West Amesbury Branch,	Merrimac,	Newton, N. H.,	4.450	2.130	–	–	.110	.380	4.940
Worcester, Nashua & Rochester,	Worcester,	Rochester, N.H.,	94.480	39.460	18.130	–	16.250	13.220	142.080
Chelsea Beach,	Revere Jct.,	Saugus River J.,	3.346	3.346	2.486	–	.501	–	6.333
Newburyport City,	E.&B.&M.R R.,	Wharves,	2.080	2.080	.150	–	1.800	–	4.030
Boston & Lowell,	Boston,	Lowell,	26.750	26.750	26.750	–	71.900	–	212.190
Lexington & Arlington,	Medford Jct.,	Lexington,	9.250	9.250	9.250	–	–	–	–
Stoneham,	Woburn Jct.,	Stoneham,	2.500	2.500	–	–	–	–	–
Woburn,	Winchester,	N. Woburn Jct.,	6.200	6.200	6.200	–	–	–	–
Mystic,	Milk Row Jct,	Mystic Wharves,	2.250	2.250	–	–	–	–	–
Lawrence,	–	In Wilmington,	3.210	3.210	–	–	–	–	–
Middlesex Central,	Lexington,	Concord,	11.080	11.080	–	–	–	–	–
Salem & Lowell,	Tewksbury,	Peabody,	16.800	16.800	–	–	–	–	–
Lowell & Lawrence,	Lowell,	S. Lawrence,	12.420	12.420	–	–	–	–	–
Bedford & Billerica,	Bedford,	Billerica,	7.630	7.630	–	–	–	–	–
Horn Pond Branch,	Woburn Branch,	Horn Pond,	.663	.663	–	–	.076	–	.739
Nashua and Lowell,	Lowell,	Nashua, N. H.,	14.500	9.250	9.250	*5.250	5.610	4.690	39.300
Stony Brook,	No. Chelmsford,	Ayer,	13.160	13.160	–	–	4.310	–	17.470
Central Massachusetts,	No. Cambridge,	Northampton,	98.770	98.770	–	–	18.640	–	117.410

---

* Includes 9.49 miles third track and 9.47 miles fourth track.

RAILROADS AND BRANCHES. (BRANCHES IN ITALICS.) (Continued.)	WHERE LOCATED.		LENGTH.		DOUBLE TRACK.		SIDINGS.		7. — Total length computed as single track.
	From.	To.	1.—Total.	2.—In Mass.	3. — In Mass.	4. — Out of Mass.	5. — In Mass.	6. — Out of Mass.	
BOSTON & PROVIDENCE. (See *Old Colony*), . . .	–	–	–	–	–	–	–	–	–
CENTRAL MASSACHUSETTS. (See *Boston & Maine*), .	–	–	–	–	–	–	–	–	–
CHATHAM. (See *Old Colony*),	–	–	–	–	–	–	–	–	–
CHESHIRE, ...	S. Ashburnham,	Bellows Falls, Vt,	53.620	10.810	–	–	3.170	14.410	71.200
Monadnock, ...	Winchendon, .	Peterboro', N.H.,	15.800	2.038	–	–	–	.700	16.500
CHELSEA BEACH. (See *Boston & Maine*), . . .	–	–	–	–	–	–	–	–	–
CONNECTICUT RIVER, . .	Springfield, .	Keene, N. H., .	74.	50.075	36.000	–	46.160	5.270	167.280
Chicopee Falls, . .	Chicopee, . .	Chicopee Falls, .	2.350	2.350	–	–	–	–	–
Easthampton, . .	Mt. Tom Jct., .	Easthampton, .	3.500	3.500	–	–	–	–	–
DANVERS. (*See Boston & Maine*), ...	–	–	–	–	–	–	–	–	–
FALL RIVER. (See *Old Colony*),	–	–	–	–	–	–	–	–	–
FALL RIVER, WARREN & PROVIDENCE (owned by *Old Colony Railroad Co.*),	Fall River, .	Warren, R. I., .	5.794	3.662	–	–	.040	.480	6.314
FITCHBURG, ...	Boston, . .	Fitchburg, .	50.	50.	95.660*	6.560	145.510	42.970	590.430
	Greenfield, .	Troy, N. Y. and Rot'dam J., N.Y.	139.960	44.					
Ashburnham, . .	–	In Ashburnham,	2.590	2.590	–	–	–	–	–
Ice, ...	–	In Charlestown,	.680	.680	.680	–	–	–	–
Watertown Branch, .	No. Cambridge,	Waltham, . .	8.260	8.260	–	–	–	–	–
Marlborough, . . .	South Acton, .	Marlborough, .	12.420	12.420	–	–	–	–	–
Peterborough & Shirley,	Ayer, . .	Greenville, N.H,	23.620	14.150	–	–	–	–	–
Worcester, ...	Worcester, .	Winchendon, .	36.	36.	–	–	–	–	–
Saratoga, ...	Saratoga, N. Y.,	Schuylerville, N. Y., . .	25.520	–	–	–	–	–	–

Vermont & Massachusetts, .	Fitchburg, .	Greenfield, .	56.	56.	56.000	–	28.100	–	142.900
Turner's Falls, . .	Greenfield, .	Turner's Falls, .	2.800	2.800	–	–	–	–	–
GRAFTON & UPTON, . .	North Grafton, .	Milford, . .	16.500	16.500	–	–	2.750	–	19.250
HOLYOKE & WESTFIELD. (See *N. Y., N. H. & H'tf'd*), .	–	–	–	–	–	–	–	–	–
HORN POND BRANCH. (See *Boston & Maine*), . .	–	–	–	–	–	–	–	–	–
HOUSATONIC (Ct.), . . .	–	–	–	–	–	–	–	–	–
Berkshire, ...	W. Stockbridge,	State Line of Ct.,	21.030	21.030	–	–	4.490	–	25.520
Stockbridge and Pittsfield, .	Vandeusenville,	Pittsfield, . .	22.930	22.930	–	–	4.990	–	27.920
West Stockbridge, . .	W. Stockbridge,	State Line, N.Y.,	2.640	2.640	–	–	2.380	–	5.020
LOWELL & ANDOVER. (See *Boston & Maine*), . .	–	–	–	–	–	–	–	–	–
MILFORD, FRANKLIN & PROV. (See *N. Y. & N. E*), .	–	–	–	–	–	–	–	–	–
MILFORD & WOONSOCKET. (See *N. Y. & N. E.*), .	–	–	–	–	–	–	–	–	–
MONADNOCK. (See *Cheshire*),	–	–	–	–	–	–	–	–	–
NANTASKET BEACH. (See *Old Colony*), ...	–	–	–	–	–	–	–	–	–
NASHUA, ACTON & BOSTON (operated by *Concord, N. H.*),	Acton, . .	Nashua, N. H., .	20.210	15.460	–	–	.850	1.680	22.740
NASHUA & LOWELL. (See *Boston & Maine*), . .	–	–	–	–	–	–	–	–	–
NEWBURYPORT. (See *Boston & Maine*), ...	–	–	–	–	–	–	–	–	–
NEWBURYPORT CITY. (See *Boston & Maine*), . .	–	–	–	–	–	–	–	–	–
NEW LONDON NORTHERN (operated by J. Gregory Smith and others), . .	New London, Ct.,	Brattleboro', Vt.,	121.	54.	–	–	10.080	17.240	148.320

---

* Includes 1.66 miles of third track.

RAILROADS AND BRANCHES. (BRANCHES IN ITALICS.) (Continued.)	WHERE LOCATED.		LENGTH.		DOUBLE TRACK.		SIDINGS.		7.—Total length computed as single track.
	From.	To.	1.—Total.	2.—In Mass.	3.—In Mass.	4.—Out of Mass.	5.—In Mass.	6.—Out of Mass.	
NEW YORK & NEW ENGLAND,	Boston, . .	Hopewell Jct., N.Y.,	214.960	52.050	52.050	56.050	47.460	91.820	607.240
	Hopewell Jct., .	Fishkill-on-Hud,	1.710	–	–	–	–	–	–
Providence Division, .	Providence, .	Willimantic, Ct,	58.320	–	–	–	–	–	–
Woonsocket Division, .	Newton Hl'ds, .	Woonsocket, R.I,	28.620	27.600	–	–	–	–	–
Southbridge, . . .	E. Thompson, Ct.,	Southbridge, .	17.360	12.010	–	–	–	–	–
Dedham, . . .	Elmwood Jct. & Islington, .	Dedham, . .	2.900	2.900	–	–	–	–	–
Dorrance Street, . .	–	In Providence, .	.620	–	–	–	–	–	–
Hartford Freight, . .	–	In Hartford, .	.670	–	–	–	–	–	–
Springfield Division, .	East Hartford, .	Springfield, .	27.480	7.310	–	–	–	–	–
Melrose, ...	Melrose, Ct, .	West St, Ct., .	7.220	–	–	–	–	–	–
Norwich & Worcester,	Worcester, .	Allyn's Point, Ct,	65.730	18.240	–	–	7.600	13.700	87.460
	Norwich, Ct., .	N.L.N R.R., Ct.,	.430						
Milford & Woonsocket, .	Ashland, . .	Bellingham, .	15.327	15.327	–	–	1.900	–	17.227
Milford, Franklin & Prov., .	Franklin, . .	Bellingham, .	4.600	4.600	–	–	.407	–	5.007
Rhode Island & Mass, .	Franklin, . .	State Line of R.I.,	6.620	6.620	–	–	1.006	–	7.626
NEW YORK, NEW HAVEN & HARTFORD, ...	Woodlawn Jct., N.Y.,	Springfield, .	122.440	5.950	5.950	134.990*	5.800	99.020	388.240
N. Britain (Ct.), . .	Berlin, Ct, .	New Britain, Ct.,	3.180	–	–	–	–	–	–
Middletown (Ct.), . .	Berlin, Ct., .	Middletown, Ct,	9.700	–	–	–	–	–	–
Suffield (Ct.), . .	Windsor Locks,	Suffield, Ct., .	4.320	–	–	–	–	–	–
Freight Branch, . .	–	In Hartford, .	.840	–	–	–	–	–	–
Belle Dock, . . .	–	In New Haven,	1.000	–	–	1.000	–	–	–
New Haven & Northampton,	New Haven, Ct,	Conway Jct, .	94.640	43.380	–	–	16.350	19.420	163.120
Collinsville (Ct.), . .	Farmington, Ct.,	N. Hartford, Ct.,	14.090	–	–	–	–	–	–
Tariffville, . . .	Simsbury, Ct, .	Tariffville, Ct, .	1.040	–	–	–	–	–	–
Northampton, . .	Northampton, .	Williamsburg, .	7.510	7.510	–	–	–	–	–
Turner's Falls, . .	So. Deerfield, .	Turner's Falls, .	10.070	10.070	–	–	–	–	–
Holyoke & Westfield, . .	Westfield, . .	Holyoke, . .	14.320	14.320	–	–	–	–	17.220
Mill Branches, . .	–	In Holyoke, .	2.900	2.900	–	–	–	–	–

NEW HAVEN & NORTHAMPTON. (See *N. Y., N. H. & H'tf'd*),	–	–	–	–	–	–	–	–	–
NORWICH & WORCESTER. (See *N. Y. & N. E.*), .	–	–	–	–	–	–	–	–	–
NORTH BROOKFIELD. (See *Boston & Albany*), . .	–	–	–	–	–	–	–	–	–
OLD COLONY, . . .	Boston, . .	Provincetown, .	120.010	352.700	114.500	–	185.000	2.810	786.340
	So. Braintree, .	Plymouth, . .	26.040						
	Braintree, . .	Kingston, . .	32.340						
	May Flower P'k,	Newport, . .	55.020						
	Middleborough,	Somerset Jct , .	14.960						
	Raynham, . .	Whittenton Jct.,	3.380						
	Fitchburg, .	New Bedford, .	91.020						
	So. Framingham,	Lowell, . .	26.120						
Middleboro' & Taunton,	Middleborough,	Taunton, . .	8.040	8.040	–	–	–	–	–
Stoughton, . . .	–	In Stoughton, .	1.650	1.650	1.650	–	–	–	–
Bridgewater, . . .	So. Abington, .	Bridgewater, .	6.120	6.120	–	–	–	–	–
Brockton, . . .	–	–	.750	.750	–	–	–	–	–
Granite, . . .	Atlantic, . .	Braintree, . .	5.410	5.410	–	–	–	–	–
Wood's Holl, . . .	Buzzard's Bay, .	Wood's Holl, .	17.540	17.540	–	–	–	–	–
Hyannis, . . .	Yarmouth, .	Hyannis, . .	5.050	5.050	–	–	–	–	–
Shawmut, . . .	Harrison Sq., .	Milton L. Mills,	2.390	2.390	–	–	–	–	–
Extension to F. R, W. & P. R R, . . .	Bowenville St'n,	–	2.160	2.160	–	–	–	–	–
Marlborough, . .	S. Marlborough,	Marlborough, .	1.470	1.470	–	–	–	–	–
Acushnet, . . .	–	In New Bedford,	.350	.350	–	–	–	–	–
Dorchester & Milton, .	Neponset, . .	Mattapan, . .	3.300	3.300	–	–	–	–	–
Hanover, . . .	No. Abington, .	So. Hanover, .	7.800	7.800	–	–	–	–	–
Easton, ...	–	–	7.560	7.560	–	–	–	–	–
Fairhaven, . . .	Fairhaven, .	Tremont Station,	15.170	15.170	–	–	–	–	–
Attleborough, . . .	Taunton, . .	Attleborough, .	8.600	8.600	–	–	–	–	–
Sterling, . . .	Pratts' Junction,	Sterling Jct., .	5.030	5.030	–	–	–	–	–
Lancaster, . . .	–	In Lancaster, .	1.630	1.630	–	–	–	–	–
Framingham Prison, .	–	In Framingham,	.620	.620	–	–	–	–	–
Wrentham, . . .	Walpole, . .	No. Attleboro', .	12.850	12.850	–	–	–	–	–

* Includes 9 25 miles of third and 9.25 miles of fourth track.

RAILROADS AND BRANCHES. (BRANCHES IN ITALICS.) (Concluded.)	WHERE LOCATED.		LENGTH.		DOUBLE TRACK.		SIDINGS.		7.—Total length computed as single track.
	From.	To.	1.—Total.	2.—In Mass.	3.—In Mass.	4.—Out of Mass.	5.—In Mass.	6.—Out of Mass.	
OLD COLONY — Concluded.									
Boston & Providence,	Boston,	Providence, R.I.,	44.	38.140	46.810*	5.860	35.610	12.570	169.968
West Roxbury,	Forest Hills St'n,	Dedham,	5.366	5.366	5.366	–	–	–	–
Dedham,	Readville,	Dedham,	2.224	2.224	–	–	–	–	–
Stoughton,	Canton,	Stoughton,	4.114	4.114	–	–	–	–	–
India Point,	Seekonk,	Providence, R.I.,	8.048	3.485	–	–	–	–	–
Attleborough Branch,	Attleborough,	N. Attleborough,	4.	4.	–	–	1.	–	5.
Fall River,	Fall River,	New Bedford,	12.250	12.250	–	–	1.540	–	13.790
Chatham,	Chatham,	Harwich,	7.070	7.070	–	–	1.000	–	8.070
Nantasket Beach,	Old Col. House,	Pemberton,	6.933	6.933	–	–	2.535	–	9.468
PITTSFIELD & NORTH ADAMS (See *Boston & Albany*),	–	–	–	–	–	–	–	–	–
PROVIDENCE & WORCESTER (operated by the *N. Y., Prov. & B. R.R.*),	Providence, R.I.,	Worcester,	43.410	25.510	24.480	17.900	19.830	29.590	142.210
East Providence,	Valley Falls,	E. Providence,	7.	.500	–	–	–	–	–
PROV., WEBSTER & SPRINGFIELD. (See *Boston & Albany*),	–	–	–	–	–	–	–	–	–
RHODE ISLAND & MASSACHUSETTS (See *New York & New England*),	–	–	–	–	–	–	–	–	–
STOCKBRIDGE & PITTSFIELD. (See *Housatonic*),	–	–	–	–	–	–	–	–	–
STONY BROOK. (*See Boston & Maine*),	–	–	–	–	–	–	–	–	–
UNION FREIGHT,	B. & L. R.R.,	Old Colony R.R.,	2.431	2.431	.937	–	1.280	–	4.648

VERMONT & MASSACHUSETTS. (See *Fitchburg*), . .	–	–	–	–	–	–	–	–	–
WARE RIVER. (See *Boston & Albany*), ...	–	–	–	–	–	–	–	–	–
WEST AMESBURY BRANCH. (See *Boston & Maine*), .	–	–	–	–	–	–	–	–	–
WEST STOCKBRIDGE. (See *Housatonic*), ...	–	–	–	–	–	–	–	–	–
WORCESTER, NASHUA & ROCHESTER. (See *Boston & Maine*), ...	–	–	–	–	–	–	–	–	–
NARROW GAUGE.									
BOSTON, REVERE BEACH & LYNN, ...	East Boston, .	Lynn, . .	8.800	8.800	8.300	8.300	2.500	–	19 600
BOSTON, WINTHROP & SHORE,	Winthrop Jct., .	Winthrop,. .	4.700	4.700	–	–	.500	–	7.800
Branch,.	Crescent Beach,	Point of Pines, .	2.600	2.600	–	–	–	–	–
HOOSAC TUNNEL & WILMINGTON, ...	Hoosac Tunnel,	Readsboro', Vt.,	11.000	8.000	–	–	.500	.500	12.000
MARTHA'S VINEYARD, . .	Oak Bluffs, .	Katama, . .	8.330	8.330	–	–	.500	–	9.280
Katama, . . .	Katama, . .	South Beach, .	.450	.450	–	–	–	–	–
NANTUCKET, ...	Nantucket, .	Siasconset, .	11.160	11.160	–	–	.080	–	11.240
WORCESTER & SHREWSBURY,	Worcester, .	L.Quinsigamond,	2.700	2.700	–	–	–	–	2.700
Totals, ...	. . . . .	. . . . .	3,209.624	2,088.872	795.599	302.900	1,052.225	464.050	5,824.398

* Includes 8.67 miles of third track.

	8. — BOSTON & ALBANY.	9. — FITCHBURG.	10. — BOSTON & MAINE.	11. — NEW YORK & NEW ENGLAND.	12. — OLD COLONY.
CAPITAL STOCK.					
Amount paid in,	$20,000,000 00	$20,775,100 00[1]	$16,297,743 80[2]	$22,700,000 00[3]	$12,366,900 00
Number of stockholders,	7,091	4,314[4]	5,892[5]	1,524[6]	6,013
Stockholders in Massachusetts,	6,081	3,481[7]	3,521[8]	944[9]	5,628
Amount of stock held in Massachusetts,	$17,094,400 00	$13,850,400 00[10]	$13,525,000 00[11]	$6,169,800 00[12]	$11,687,400 00
DEBT.					
Funded debt,	$10,858,000 00	$18,534,600 00	$17,393,920 31	$16,748,625 00	$11,615,400 00
Current liabilities,	903,270 31	2,122,902 87	5,772,287 00	1,245,330 45	2,653,529 70
TOTAL GROSS DEBT,	11,761,270 31	20,657,502 87	23,166,207 31	17,993,955 45	14,268,929 70
PERMANENT INVESTMENTS.					
Construction,	$26,021,614 84	$33,525,312 86	$27,876,354 66	$34,303,074 99	$19,826,558 63
Equipment,	3,145,400 00	3,733,601 16	4,377,693 94	4,440,602 25	2,244,712 23
Other property,	642,638 59	1,581,600 54	5,358,079 56	99,900 00	1,931,362 81
TOTAL PERMANENT INVESTMENTS,	29,809,653 43	38,840,514 56	37,612,128 16	38,843,577 24	24,002,633 67
Cash and current assets,	1,359,150 54	2,205,742 33	3,004,832 46	875,491 44	1,512,912 39
Other assets,	1,884,171 82	765,663 48	2,246,032 96	538,274 06	1,845,893 19
TOTAL PROPERTY AND ASSETS,	33,052,975 79	41,811,920 37	42,862,993 58	40,257,342 74	27,361,439 25
TRANSPORTATION EARNINGS FOR THE YEAR.					
From passengers,	$3,737,292 52	$1,755,764 77	$7,128,448 75	$2,004,654 52	$4,541,061 31
mails,	209,130 04	47,384 34	204,168 45	59,064 36	56,642 54
express,	260,109 55	163,472 16	386,781 85	153,732 13	216,454 85
extra baggage and storage,	35,715 66	–	43,763 06	15,547 86	31,862 39
other sources passenger department,	7,814 40	28,472 96	21,430 30	18,764 46	–
Total earnings passenger department,	4,250,062 17	1,995,094 23	7,784,592 41	2,251,763 33	4,846,021 09
From freight,	4,446,585 62	3,880,251 91	6,781,165 20	3,445,384 95	2,999,411 93
other sources freight department,	168,001 94	266,168 67	7,419 86	76,151 98	–
Total earnings freight department,	4,614,587 56	4,146,420 61	6,788,585 06	3,521,536 93	2,999,411 93
TOTAL PASSENGER AND FREIGHT EARNINGS,	8,864,649 73	6,141,514 84	14,573,177 47	5,773,300 26	7,845,433 02

From other earnings from operation,	286,419 26	115,300 49	13,848 23	76,391 44	–
TOTAL GROSS EARNINGS FROM OPERATION,	9,151,068 99	6,256,815 33	14,587,025 70	5,849,691 70	7,845,433 02
EXPENSES AND NET INCOME.					
Transportation expenses,	$5,689,404 76	$4,350,007 96	$9,337,717 46	$3,782,157 47	$5,885,238 37
Net income from operation,	3,461,664 23	1,906,807 37	5,249,308 24	2,067,534 23	1,960,194 65
Income from other sources,	–	2,718 00	358,995 59	3,750 38	671,316 96
TOTAL INCOME (LESS OPERATING EXPENSES),	3,461,664 23	1,909,525 37	5,608,303 83	2,071,284 61	2,631,511 61
DEDUCTIONS, DIVIDENDS, ETC.					
Interest accrued,	$662,900 00	$807,416 44	$569,160 34	$1,010,936 93	$658,675 74
Taxes,	587,373 38	175,597 88	611,638 50	257,689 89	433,579 90
Rentals,	78,000 00	271,980 00	3,236,998 57	422,341 49	584,605 53
Other deductions,	–	–	23,890 00	–	5,869 08
Total deductions from income,	1,328,273 38	1,254,994 32	4,441,687 41	1,690,963 31	1,682,730 25
Dividends earned,	2,133,390 85	654,531 05	1,166,616 42	380,316 30	948,781 36
Dividends declared,	1,600,000 00	261,835 60	665,000 00	183,369 26	844,683 00
Per cent.,	8.0	2.0[13]	9.5	7.0[13]	7.0
Balance for the year,	533,390 85	392,695 45	501,616 42	196,947 04	104,098 36
Surplus last year,	500,793 92*d*	678,908 64	1,521,857 17	636,863 15*d*	611,886 19
Surplus June 30, 1890,	32,596 93	282,672 48[14]	2,018,240 24[15]	[16]436,612 71*d*	715,984 55

---

[1] Common, $7,000,000; preferred, $13,775,100.

[2]

Issued Common,	$10.180,600 00
Issued Preferred,	1,036,600 00
B. & M. Scrip convertible,	142,529 92
Eastern & P. G. F. & C. stock to be converted,	4,938,013 88
	$16,297,743 80

[3] Common, $20,000,000; preferred, $2,700,000.

[4] Common, 2; preferred, 4,312.

[5] Common, $5,350; preferred, 542.

[6] Common, 941; preferred, 583.

[7] Common, 1; preferred, 3,480.

[8] Common, 3,065; preferred, 456.

[9] Common, 452; preferred, 492.

[10] Common, $5,000,000; preferred, $8,850,400.

[11]

B. & M. common,	$7,113,800
B. & M. preferred,	991,600
Eastern common,	2,623,600
Eastern preferred,	2,113,100
P. G. F. & C. common,	682,900
	$13,525,000

[12] Common, $3,906,700; preferred, $2,263,100.

[13] On preferred capital stock.

[14]

Total Profit and Loss Account,		$678,908 64
Deduct: Bleachery fire award,	$252,871 34	
R. R. Commissioners' award,	7,891 94	
Coyle claim,	6,202 35	
Lancaster R. R.,	17,635 51	
B. H. T. & W. R. R.,	14,990 00	
Improvement account,	96,645 02	
		396,236 16
		$282,672 48

[15]

Total Profit and Loss Account,	$2,023,473 59
Add: P. G. F. & C. R. R. Profit and Loss,	1,027 47
	$2,024,501 06
Deduct: Surplus earnings credited to Improvement Account,	6,260 82
	$2,018,240 24

[16]

Profit and Loss Account (deficit),		$439,916 11
Add: Discount on sale of 186 Boston Terminal First Mortgage Bonds,	$9,300 00	
Expenditures during the year for renewal of equipment destroyed in 1882, 1883 and 1885,	7,468 01	
Worthless accou'ts charged off,	471 18	
		17,239 19
		$457,155 30
Deduct: Premium on sale of Preferred Stock,		20,542 59
		$436,612 71

d Deficit.

	8. — Boston & Albany — Con.	9. — Fitchburg — Con.	10. — Boston & Maine — Con.	11. — New York & New England—Con.	12. — Old Colony — Con.
Mileage, Traffic, etc.					
Passenger-train mileage,	2,565,133	1,893,601	5,695,334	1,985,967	3,427,903
Freight-train mileage,	2,346,960	2,482,579	3,724,846	1,776,073	1,426,221
Mixed-train mileage,	-	-	-	26,517	46,899
Total revenue — train mileage,	4,912,093	4,376,180	9,420,180	3,788,557	4,901,023
Switching-train mileage,	883,017	1,205,842	1,756,475	830,300	951,002
Other train mileage,	165,190	59,334	319,260	120,052	339,439
Total Train Mileage,	5,960,300	5,641,356	11,495,915	4,738,909	6,191,464
Number passengers carried,	11,002,597	5,895,202	29,613,549	7,637,290	21,305,226
Number passengers carried one mile,	201,128,880	91,705,034	394,455,773	102,470,819	249,441,807
Tons of freight carried,	3,833,115	3,971,318	6,505,909	2,973,813	3,076,198
Tons of freight carried one mile,	402,241,138	390,079,822	397,474,144	282,295,120	112,893,604
Av. rate of fare per mile, local tickets,	1.873 cents.	1.87 cents.	1.801 cents.	2.017 cents.	2.04 cents.
commutation tickets,		1.22 "	-*	1.572 "	1.84 "
mileage tickets,	2.000 "	-	2.00 "	2.00 "	2. "
season tickets,	.610 "	0.71 cents.	.74 "	.794 "	.77 "
joint tickets,†	2.078 "	2.07 "	1.842 "	2.139 "	2.17 "
freight per mile, way-billed local,	1.710 "	2.65 "	2.483 "	2.802 "	3.10 "
way-billed jointly,†	.800 "	0.82 "	1.217 "	.966 "	2.00 "
Passengers to Boston (including season),	3,296,241	1,763,157	9,810,602	1,598,404	6,250,917
Passengers from Boston (including season),	3,318,910	1,766,372	9,791,415	1,533,204	6,293,027
Season-ticket passengers to and from Boston,	630,763	162,630	1,847,910	230,615	1,034,093
Equipment.					
Number of locomotives,	240	187	441	179	222
passenger cars,	254	170	660	223	474
parlor, sleeping and dining cars,	15	-	28	6	40

mail, baggage and express cars,	53	40	129	29	73
directors' and pay cars,	4	2	2	2	1
freight cars (basis 8 wheels),	6,353	5,569	8,370	4,522	3,173
other cars,	363	306	467	105	285
GENERAL-INFORMATION, ETC.					
Total miles of road operated,	388.73	369.08	1,210.03	465.22	563.55
Same in Massachusetts,	332.10	226.90	472.48	147.68	536.94
Average number of persons employed,	5,261	4,487	9,661	4,184	6,002

---

* Within suburban circuit, 1 to 2 cents; outside of suburban circuit, 2 to 2½ cents.

† To and from other railroads and transportation companies.

	13. — CHESHIRE.	14. — CONNECTICUT RIVER.	15. — FALL RIVER, WARREN & PROVIDENCE.[1]	16. — GRAFTON & UPTON.	17. — HOUSATONIC OF CONNECTICUT.[2]
CAPITAL STOCK.					
Amount paid in,	$2,153,300 00	$2,580,000 00	$150,000 00	$250,000 00	–
Number of stockholders,	515	989	27	29	–
Stockholders in Massachusetts,	392	775	11	26	–
Amount of stock held in Massachusetts,	$1,675,000 00	$2,012,300 00	$103,300 00	$232,200 00	–
DEBT.					
Funded debt,	$800,000 00	–	$300,000 00	$250,000 00	–
Current liabilities,	267,329 36	$835,120 23	5,305 61	–	–
TOTAL GROSS DEBT,	1,067,329 36	835,120 23	305,305 61	250,000 00	–
PERMANENT INVESTMENTS.					
Construction,	$2,438,585 69	$3,133,561 43	$310,747 60	$449,974 31	–
Equipment,	397,679 32	426,527 66	–	50,025 69	–
Other property,	–	99,610 00	–	–	–
TOTAL PERMANENT INVESTMENTS,	2,836,265 01	3,659,699 09	310,747 60	500,000 00	–
Cash and current assets,	306,775 60	616,499 41	5,594 57	4,261 43	–
Other assets,	99,536 86	138,976 81	–	–	–
TOTAL PROPERTY AND ASSETS,	3,242,577 47	4,415,175 31	316,342 17	504,261 43	–
TRANSPORTATION EARNINGS FOR THE YEAR.					
From passengers,	$185,453 19	$457,227 45	$22,756 72	$10,855 10	$125,723 42
mails,	9,943 48	20,691 68	668 20	100 98	4,652 85
express,	7,500 00	–	1,500 00	1,277 50	8,972 85
extra baggage and storage,	–	18,500 00	–	–	–
other sources passenger department,	–	–	–	–	7,164 50

Total earnings passenger department,	202,896 67	496,419 13	24,924 92	12,233 58	146,513 62
From freight,	442,932 22	592,953 00	425 22	12,349 79	199,983 48
other sources freight department,	–	–	–	–	13,024 28
Total earnings freight department,	442,932 22	592,953 00	425 22	12,349 79	213,007 76
TOTAL PASSENGER AND FREIGHT EARNINGS,	645,828 89	1,089,372 13	25,350 14	24,583 37	359,521 38
From other earnings from operation,	–	10,366 35	–	–	–
TOTAL GROSS EARNINGS FROM OPERATION,	645,828 89	1,099,738 48	25,350 14	24,583 37	359,521 38
EXPENSES AND NET INCOME.					
Transportation expenses,	$451,621 63	$831,414 82	$18,323 11	$9,371 84	$202,397 99
Net income from operation,	194,207 26	268,323 66	7,027 03	15,211 53	157,123 39
Income from other sources,	31,917 43	59,051 26	50 00	–	–
TOTAL INCOME (LESS OPERATING EXPENSES),	226,124 69	327,374 92	7,077 03	15,211 53	127,123 39
DEDUCTIONS, DIVIDENDS, ETC.					
Interest accrued,	$49,227 61	$25,655 30	$6,757 53[3]	$12,540 00	–
Taxes,	26,310 88	75,132 69	319 50	920 00	–
Rentals,	51,000 00	13,177 78	–	–	$75,209 00
Other deductions,	–	7,009 15	–	–	39,973 61
Total deductions from income,	126,538 49	120,974 92	7,077 03	13,460 00	115,182 61
Dividends earned,	99,586 20	206,400 00	–	1,751 53	41,940 78
Dividends declared,	126,000 00	206,400 00	–	–	–
Per cent.,	6.0	8.0	–	–	–
Balance for the year,	26,413 80*d*	–	–	1,751 53	41,940 78
Surplus last year,	48,361 91	1,000,000 00	138,963 44	2,509 90	–
Surplus June 30, 1890,	21,948 11	1,000,055 08[4]	138,963 44	4,261 43	–

---

[1] Road in possession of trustee for the bondholders.

[2] Operating the Berkshire, the Stockbridge & Pittsfield, and the West Stockbridge Railroads.

[3] Interest paid.

[4] $55.08 added for "sundry vouchers."

d Deficit.

	13. — Cheshire — Con.	14. — Connecticut River — Con.	15. — Fall River, Warren & Providence — Con.	16. — Grafton & Upton — Con.	17. — Housatonic of Connecticut — Con.
Mileage, Traffic, etc.					
Passenger-train mileage,	189,363	408,275	–	13,560	134,810
Freight-train mileage,	517,939	149,869	–	13,868	143,170
Mixed-train mileage,	–	–	24,343	13,984	42,640
Total revenue-train mileage,	707,302	558,144	24,343	41,412	320,620
Switching-train mileage,	63,055	183,139	–	–	36,770
Other train mileage,	23,800	18,480	–	–	4,830
Total Train Mileage,	794,157	759,763	24,343	41,412	362,220
Number passengers carried,	217,483	1,870,734	212,572	64,420	328,560
Number passengers carried one mile,	6,264,710	19,096,563	1,139,402	322,100	5,355,528
Tons of freight carried,	859,384	863,380	949	16,947	182,460
Tons of freight carried one mile,	48,240,063	21,581,814	4,280	135,536	8,101,224
Av. rate of fare per mile, local tickets,	2.56 cents.	2.28 cents.	3.37 cents.	4.00 cents.	2.94 cents.
commutation tickets,	–	–	2.70 "	–	0.66 "
mileage tickets,	–	2.06 cents.	2.00 "	–	2.00 "
season tickets,	1.51 cents.	0.95 "	0.738 "	2.00 cents.	0.66 "
joint tickets,*	3.16 "	2.68 "	2.02 "	3.50 "	2.94 "
Av. rate of freight per mile, way-billed local,	4.48 "	4.24 "	24.40 "	9.00 "	2.95 "
way-billed jointly,*	0.88 "	2.49 "	9.09 "	–	2.58 "
Passengers to Boston (including season),	–	–	–	–	–
Passengers from Boston (including season),	–	–	–	–	–
Season-ticket passengers to and from Boston,	–	–	–	–	–
Equipment.					
Number of locomotives,	34	42	–†	3	–
passenger cars,	29	61	–	4	–
parlor, sleeping and dining cars,	–	–	–	–	–

mail, baggage and express cars,	11	3	–	2	–
directors' and pay cars,	–	–	–	–	–
freight cars (basis 8 wheels),	506	552	–	1	–
other cars,	38	50	–	–	–
GENERAL INFORMATION, ETC.					
Total miles of road operated,	64.01	79.850	5.794	16.50	46.60
Same in Massachusetts,	21.20	55.925	3.662	16.50	46.60
Average number of persons employed,	424	687	14	12	201

---

* To and from other railroads and transportation companies.

† Equipment furnished by Old Colony Railroad Company.

	18. — MONADNOCK (LESSEES).[1]	19. — NEW LONDON NORTHERN.[2]	20. — NEW YORK, NEW HAVEN & HARTFORD.	21. — PROVIDENCE & WORCESTER.[3]	22. — UNION FREIGHT.
CAPITAL STOCK.					
Amount paid in,	–	$1,500,000 00	$18,600,000 00	$3,500,000 00	$300,000 00
Number of stockholders,	–	310	3,707	844	3
Stockholders in Massachusetts,	–	70	620	462	3
Amount of stock held in Massachusetts,	–	$384,700 00	$3,195,500 00	$2,005,100 00	$300,000 00
DEBT.					
Funded debt,	–	$1,499,500 00	$2,000,000 00		
Current liabilities,	–	115,956 92	1,645,407 66	$1,250,000 00	$126,964 11
TOTAL GROSS DEBT,	–	1,615,456 92	3,645,407 66	1,250,000 00	126,964 11
PERMANENT INVESTMENTS.					
Construction,	–	$2,953,336 72	$18,005,055 63	$3,570,000 00	$401,069 67
Equipment,	–	248,420 44	3,461,573 13	828,887 40	14,000 00
Other property,	–	243,170 00	871,026 28	–	13,000 00
TOTAL PERMANENT INVESTMENTS,	–	3,444,927 16	22,337,655 04	4,398,887 40	428,069 67
Cash and current assets,	–	121,995 27	2,986,288 18	618,434 85	42,341 17
Other assets,	–	25,614 79	627,991 81	–	3,550 75
TOTAL PROPERTY AND ASSETS,	–	3,592,537 22	25,951,935 03	5,017,322 25	473,961 59
TRANSPORTATION EARNINGS FOR THE YEAR.					
From passengers,	$12,169 23	$225,129 91	$5,398,010 84	$593,100 12	–
mails,	935 60	15,415 48	238,324 47	4,975 09	–
express,	1,000 00	10,392 95	276,751 20	17,955 44	–
extra baggage and storage,	–	1,289 49	33,455 61	–	–
other sources passenger department,	–	–	231,825 87	–	–
Total earnings passenger department,	14,104 83	252,227 83	6,178,367 99	616,030 65	–
From freight,	26,861 60	346,156 77	4,489,610 96	892,098 22	$92,416 46
other sources freight department,	–	–	31,152 11	–	–

Total earnings freight department,	26,861 60	346,156 77	4,520,763 07	892,098 22	92,416 46
TOTAL PASSENGER AND FREIGHT EARNINGS,	40,966 43	598,384 60	10,699,131 06	1,508,128 87	–
From other earnings from operation,	–	–	50,036 48	15,385 19	1 00
TOTAL GROSS EARNINGS FROM OPERATION,	40,966 43	598,384 60	10,749,167 54	1,523,514 06	92,417 46
EXPENSES AND NET INCOME.					
Transportation expenses,	$26,609 74	$406,136 91	$7,379,774 49	$957,340 97	$51,461 33
Net income from operation,	14,356 69	192,247 69	3,369,393 05	566,173 09	40,956 13
Income from other sources,	952 67	9,887 55	219,021 20	45,917 57	910 00
TOTAL INCOME (LESS OPERATING EXPENSES),	15,309 36	202,135 24[4]	3,588,414 25	612,090 66[4]	41,866 13
DEDUCTIONS, DIVIDENDS, ETC.					
Interest accrued,	–	$84,963 34[5]	$149,637 78	$75,000 00[6]	$3,030 77
Taxes,	$1,730 62	247 19	552,868 38	–	2,267 73
Rentals,	12,000 00	–	982,888 37	–	–
Other deductions,	–	15,048 12	–	11,135 94	8,000 00
Total deductions from income,	13,730 62	100,258 65	1,685,394 53	86,135 94	13,298 50
Dividends earned,	1,578 74	145,409 93	1,903,019 72	336,364 06	28,567 63
Dividends declared,	–	105,000 00	1,705,000 00	337,500 00	21,000 00
Per cent,	–	7.0	–[7]	10.0	7.0
Balance for the year,	1,578 74	40,409 93	198,019 72	1,135 94*d*	7,567 63
Surplus last year,	–	436,670 37	3,508,507 65	18,966 65	39,429 85
Surplus June 30, 1890,	–	477,080 30	3,706,527 37	267,322 25[8]	46,997 48

---

[1] Leased to and operated by the Cheshire Railroad Company.

[2] Leased to and operated by the Consolidated Railroad Company of Vermont.

[3] Leased to and operated by the New York, Providence & Boston Railroad Company.

[4] Lessees' account.

[5] Company's account; amount derived from rent, etc., $245,668.58.

[6] Company's account; amount derived from rent, $422,500.

[7] Five per cent. on $15,500,000 capital stock; 5 per cent. on $18,600,000 capital stock.

d Deficit.

[8] Total profit and loss surplus,	$17,830 71
Add: Increase in valuation of equipment as per appraisal under lease,	253,887 40
	$271,718 11
Deduct: Accounts charged off,	4,395 86
Balance,	$267,322 25

	18. — Monadnock (Lessees) — Con.	19. — New London Northern — Con.	20. — New York, New Haven & Hartford — Con.	21. — Providence & Worcester — Con.	22. — Union Freight — Con.
MILEAGE, TRAFFIC, ETC.					
Passenger-train mileage,	15,720	272,076	3,658,214	434,906	–
Freight-train mileage,	14,248	213,518	2,217,377	252,259	27,228
Mixed-train mileage,	–	–	133,031	–	–
Total revenue — train mileage,	29,968	485,594	6,008,622	687,165	27,228
Switching-train mileage,	2,700	107,260	943,598	378,363	–
Other train mileage,	1,300	11,184	374,499	37,202	–
TOTAL TRAIN MILEAGE,	33,968	604,038	7,326,719	1,102,730	27,228
Number passengers carried,	31,755	540,804	13,148,140	3,211,369	–
Number passengers carried one mile,	334,562	7,903,408	325,181,474	26,172,730	–
Tons of freight carried,	53,133	430,708	3,563,873	1,215,909	331,837
Tons of freight carried one mile,	753,672	27,915,347	248,619,796	35,711,439	457,874
Av. rate of fare per mile, local tickets,	3.30 cents.	2.96 cents.	1.92 cents.	2.35 cents.	–
commutation tickets,	–	1.97 "	0.48 "	0.78 "	–
mileage tickets,	2.00 cents.	2.02 "	2.00 "	2.00 "	–
season tickets,	–	0.65 "	0.48 "	–	–
joint tickets,*	4.10 cents.	2.47 "	2.00 "	2.01 cents.	–
freight per mile, way-billed local,	11.60 "	3.23 "	2.88 "	2.69 "	2.02 cents.
way-billed jointly,*	3.99 "	1.18 "	1.49 "	2.05 "	1.74 "
EQUIPMENT.					
Number of locomotives,	–	24	209	–	4
passenger cars,	–	23	423†	–	–
parlor, sleeping and dining cars,	–	–	43†	–	–

mail, baggage and express cars,	–	2	113†	–	–
directors' and pay cars,	–	–	4	–	–
freight cars (basis 8 wheels),	–	316	3,885	–	–
other cars,	–	14	493	–	–
GENERAL INFORMATION.					
Total miles of road operated,	15.800	100	508.08	50.41	2.431
Same in Massachusetts,	2.038	54	77.23	26.01	2.431
Average number of persons employed,	25	533	7,362	1,200	45

---

* To and from other railroads and transportation companies.

† In addition to the above, this company owns 3-10 of 20 drawing-room and 8 sleeping cars in Wagner Shore Line, and 124-232 of 11 baggage, 7 smoking, 2 postal, 2 combination and 19 coaches in Boston & New York Shore Line Express.

NARROW-GAUGE ROADS.	23. — BOSTON, REVERE BEACH & LYNN.	24. — BOSTON, WINTHROP & SHORE.	25. — HOOSAC TUNNEL & WILMINGTON.	26. — MARTHA'S VINEYARD.	27. — NANTUCKET.	28. — WORCESTER & SHREWSBURY.
CAPITAL STOCK.						
Amount paid in,	$750,000 00	$289,600 00	$50,000 00	$40,000 00	$84,000 00	$36,825 00
Number of stockholders,	362	50	6	24	44	10
Stockholders in Massachusetts,	337	50	4	22	38	10
Amount of stock held in Massachusetts,	$667,100 00	$289,600 00	$47,400 00	$33,700 00	$73,300 00	$36,825 00
DEBT.						
Funded debt,	$350,000 00	$289,000 00	-	$40,000 00	$17,000 00	$22,000 00
Current liabilities,	227,707 82	76,074 00	$64,369 46	13,771 02	-	3,343 15
TOTAL GROSS DEBT,	577,707 82	365,074 00	64,369 46	53,771 02	17,000 00	25,343 15
PERMANENT INVESTMENTS.						
Construction,	$870,223 24	$515,446 14	$110,184 79	$91,512 09	$88,568 42	$57,759 92
Equipment,	248,878 42	28,238 81	-	14,086 00	14,413 18	42,801 48
Other property,	171,214 46	94,100 00	-	3,501 63	-	-
TOTAL PERMANENT INVESTMENTS,	1,290,316 12	637,784 95	110,184 79	109,099 72	102,981 60	100,561 40
Cash and current assets,	92,981 24	16,253 02	119 42	-	137 52	35 08
Other assets,	33,819 33	-	-	-	-	-
TOTAL PROPERTY AND ASSETS,	1,417,116 69	654,037 97	110,304 21	109,099 72	103,119 12	100,596 48
TRANSPORTATION EARNINGS FOR THE YEAR.						
From passengers,	$280,951 99	$35,418 00	$3,852 27	$5,584 59	$6,508 10	$32,813 53
mails,	-	-	489 47	175 00	160 41	196 37
express,	-	-	178 24	131 55	-	-
other sources passenger department,	-	-	13,900 81‡	379 07	428 11	-
TOTAL PASSENGER EARNINGS,	280,951 99	35,418 00	18,420 79	6,270 21	7,096 62	33,009 90
From other earnings from operation,	-	-	-	2 50	-	83 52
TOTAL GROSS EARNINGS FROM OPERATION,	280,951 99	35,418 00	18,420 79	6,272 71	7,096 62	33,093 42
EXPENSES AND NET INCOME.						
Transportation expenses,	$209,762 52	$23,064 35	$9,895 50	$8,317 18	$6,826 90	$23,868 13
Net income from operation,	71,189 47	12,353 65	8,525 29	2,044 47*d*	269 72	9,225 29
Income from other sources,	18,630 12	743 50	-	-	-	-
TOTAL INCOME (LESS OPERATING EXPENSES),	89,819 59	13,097 15	8,525 29	2,044 47*d*	269 72	9,225 29

DEDUCTIONS, DIVIDENDS, ETC.						
Interest accrued,	$25,847 05	$15,896 36	$3,359 10	$2,000 00	$1,160 00	$1,549 28
Taxes,	12,804 38	316 88	139 12	–	22 20	327 06
Rentals,	–	–	4,032 50	–	–	–
Total deductions from income,	38,651 43	16,213 24	7,530 72	2,000 00	1,182 20	1,876 34
Dividends earned,	51,168 16	–	994 57	–	–	7,348 95
Dividends declared,	42,000 00	–	–	–	–	–
Per cent.,	7.0*	–	–	–	–	–
Balance for the year,	9,168 16	3,116 09*d*	994 57	4,044 47*d*	912 48*d*	7,348 95
Surplus last year,	80,240 71	959 91*d*	5,059 82*d*	–	3,031 60	31,079 38
Surplus June 30, 1890,	89,408 87	636 03*d*†	4,065 25*d*	4.044 47*d*	2,119 12	38,428 33
MILEAGE, TRAFFIC, ETC.						
Passenger-train mileage,	214,854	58,928	–	6,606	9,284	35,530
Mixed-train mileage,	–	–	14,300	–	–	–
Other train mileage,	2,926	1,415	–	–	–	–
TOTAL TRAIN MILEAGE,	217,780	60,343	14,300	6,606	9,284	35,530
Number passengers carried,	2,650,227	608,692	9,506	16,319	21,020	458,247
Number passengers carried one mile,	12,802,901	1,582,598	88,996	97,914	231,220	12,372,669
EQUIPMENT.						
Number of locomotives,	10	2	2	1	2	4
passenger cars,	45	9	4	4	4	8
mail, baggage and express cars,	–	–	–	–	–	–
freight cars (basis 8 wheels),	7	–	29	–	3	4
other cars,	10	–	33	–	–	–
GENERAL INFORMATION, ETC.						
Total miles of road operated,	8.80	4.70	11	8.78	11.16	2.70
Same in Massachusetts,	8.80	4.70	8	8.78	11.16	2.70
Average number of persons employed,	189	13	16	10	15	9

---

* On $600,000 capital stock.

† $3,440 deducted for "Premium on Bonds."

‡ For freight.

d Deficit.

LEASED ROADS.*	**29.** — Attleborough Branch.[1]	**30.** — Berkshire.[2]	**31.** — Boston & Lowell.[3]	**32.** — Boston & Providence.[1]	**33.** — Chatham.[1]
Assets.					
Construction,	$131,416 48	$600,000 00	$7,397,273 55	$5,046,088 30	$98,632 45
Other property,	1,000 00	6,000 00	5,130,867 39	1,186,327 75	678 95
Cash and current assets,	–	8,239 01	2,079,758 11	160,668 95	1,325 19
Other assets,	–	–	285,340 95	–	–
TOTAL ASSETS,	132,416 48	614,239 01	14,893,240 00	6,393,085 00	100,636 59
Liabilities.					
Capital stock,	$131,700 00	$600,000 00	$5,529,400 00	$4,000,000 00	$68,200 00
Funded debt,	–	–	7,331,400 00	2,150,000 00	30,000 00
Current liabilities,	90 34	245 07	1,369,548 08	167,104 61	1,270 00
Surplus June 30, 1890,	626 14	13,993 94	662,891 92	75,980 39	1,166 59
TOTAL LIABILITIES,	132,416 48	614,239 01	14,893,240 00	6,393,085 00	100,636 59
Income, Expenses, etc., for the Year.					
Total income from all sources,	$9,219 00	$12,441 34	$802,918 33	$511,000 00	$3,025 47
Total expenses,	–	605 10	7,000 00	6,207 34	141 78
Interest accrued,	–	–	406,663 60	101,000 00	1,860 00
Taxes,	–	9,891 84	–	–	197 58
Net income,	9,219 00	31,944 40	389,254 73	403,792 66	826 11
Dividends declared,	9,219 00	32,108 18	387,058 00	400,000 00	–
Per cent.,	7.0	5.35	7 0	10.0	–
Surplus for the year,	–	163 78*d*	2,196 73	3,792 66	826 11

---

* Leased to and operated by, [1] Old Colony, [2] Housatonic of Connecticut, [3] Boston & Maine. *d* Deficit.

LEASED ROADS.*	34.—CENTRAL MASSACHUSETTS. 1	35.—EASTERN. 1	36.—FALL RIVER. 2	37.—HOLYOKE & WESTFIELD. 3	38.—LOWELL & ANDOVER. 1
ASSETS.					
Construction,	$9,417,022 33	$14,497,655 26	$143,832 29	$522,268 89	$767,075 24
Other property,	–	4,504,795 73	–	–	–
Cash and current assets,	–	195,506 45	411 84	7,335 24	52,114 35
Other assets,	–	272,596 73	–	–	–
TOTAL ASSETS,	9,417,022 33	19,470,554 17	444,244 13	529,604 13	819,189 59
LIABILITIES.					
Capital stock,	$7,417,022 33†	$8,147,300 00‡	$200,000 00	$260,000 00	$500,000 00
Funded debt,	2,000,000 00	9,403,920 31	200,000 00	260,000 00	178,000 00
Current liabilities,	–	891,840 58	49,096 24	–	–
Surplus June 30, 1890,	–	1,027,493 28	4,852 11*d*	9,604 13	141,189 59
TOTAL LIABILITIES,	9,417,022 33	19,470,554 17	449,096 24	529,604 13	819,189 59
INCOME, EXPENSES, ETC., FOR THE YEAR.					
Total income from all sources,	$101,500 00	$1,437,011 02	$15,548 79	$9,762 76	$53,757 44
Total expenses,	1,500 00	24,623 77	–	194 00	146 25
Interest accrued,	100,000 00	597,411 88	10,000 00	–	10,680 00
Taxes,	–	–	424 32	1,758 43	18 93
Net income,	–	814,975 37	5,124 47	7,810 33	42,912 26
Dividends declared,	–	651,254 00	–	7,800 00	35,000 00
Per cent.,	–	–§	–	3.0	7.0
Surplus for the year,	–	163,721 37	5,124 47	10 33	7,912 26

* Leased to and operated by, 1 Boston & Maine, 2 Old Colony, 3 New York, New Haven & Hartford. *d* Deficit.

† Common, $3,470,100; preferred, $3,946,922 33. ‡ Common, $4,997,600; preferred, $3,149,700.

§ Six per cent. on 31,496 shares preferred stock, 6 per cent. on 49,976 shares common stock, 3¼ per cent. on 49,976 shares common stock.

LEASED ROADS.*	39. — MILFORD & WOONSOCKET. 1	40. — MILFORD, FRANKLIN & PROVIDENCE. 1	41. — MONADNOCK. 2	42. — NANTASKET BEACH (TRUSTEE). 3	43. — NASHUA & LOWELL. 4
ASSETS.					
Construction,	$171,881 13	$101,255 64	$371,701 76	$250,000 00	$691,167 07
Other property,	–	–	3,090 00	–	218,242 95
Cash and current assets,	22,631 11	512 72	3,541 61	–	308,009 94
Other assets,	–	–	–	–	11,111 50
TOTAL ASSETS,	194,512 24	101,768 36	378,333 37	250,000 00	1,228,531 46
LIABILITIES.					
Capital stock,	$148,600 00	$100,000 00	$205,400 00	–	$800,000 00
Funded debt,	60,000 00	10,000 00	48,000 00	$250,000 00	300,000 00
Current liabilities,	1,900 00	–	–	–	17,961 50
Surplus June 30, 1890,	15,987 76*d*	8,231 64*d*	124,933 37	–	110,569 96
TOTAL LIABILITIES,	210,500 00	110,000 00	378,333 37	250,000 00	1,228,531 46
INCOME, EXPENSES, ETC., FOR THE YEAR.					
Total income from all sources,	$8,751 64	$4,929 41	$12,455 11	$6,250 00	$91,089 74
Total expenses,	471 21	34 25	63 50	–	1,585 00
Interest accrued,	3,108 00	600 00	2,400 00	6,250 00	17,031 24
Taxes,	–	–	450 00	–	–
Net income,	5,172 43	4,295 16	9,541 61	–	72,473 50
Dividends declared,	5,201 00	4,500 00	6,000 00	–	72,000 00
Per cent.,	3.5	4.5	3.0	–	9.0
Surplus for the year,	28 57*d*	204 84*d*	3,541 61	–	473 50

* Leased to and operated by, [1] New York & New England, [2] Cheshire, [3] Old Colony, [4] Boston & Maine.

d Deficit.

LEASED ROADS.*	**44.** — NASHUA & ACTON & BOSTON. 1	**45.** — NEWBURYPORT CITY. 2	**46.** — NEW HAVEN & NORTHAMPTON. 3	**47.** — NORTH BROOKFIELD. 4	**48.** — NORWICH & WORCESTER. 5
ASSETS.	No returns received.				
Construction,		$122,128 33	$5,730,762 12	$105,456 79	$3,608,741 49
Other property,		-	871,430 62	75 00	452,857 75
Cash and current assets,		61	400 39	167 59	149,559 71
Other assets,		19,074 37	165,000 00	-	42,478 62
TOTAL ASSETS,		141,203 31	6,767,593 13	105,699 38	4,253,637 57
LIABILITIES.					
Capital stock,		$97,000 00	$2,460,000 00	$100,000 00	$2,626,900 00
Funded debt,		25,000 00	3,900,000 00	-	400,000 00
Current liabilities,		-	50 00	-	445,149 63
Surplus June 30, 1890,		19,203 31	407,543 13†	5,699 38	781,587 94
TOTAL LIABILITIES,		141,203 31	6,767,593 13	105,699 38	4,253,637 57
INCOME, EXPENSES, ETC., FOR THE YEAR.					
Total income from all sources,		$6,912 07	$330,100 32	$3,139 79	$253,760 11
Total expenses,		208 05	548 70	3 00	140 00
Interest accrued,		1,750 00	233,000 00	-	24,000 00
Taxes,		936 36	49,350 32	207 78	-
Net income,		4,017 66	47,201 30	2,921 01	229,620 11
Dividends declared,		3,152 50	24,600 00	3,000 00	209,774 00
Per cent.,		3.25	1 0	3.0	-‡
Surplus for the year,		865 16	101 30§	78 99*d*	19,846 11

---

* Leased to and operated by, 1 Concord & Montreal of New Hampshire, 2 Boston & Maine, 3 New York, New Haven & Hartford, 4 Boston & Albany, 5 New York & New England. † Includes $22,500 in sinking fund.

‡ 8 per cent. on 26,203 shares,	$209,624 00
Balance on account dividend in June, 1889, not allowed at time of last annual report,	150 00
	$209,724 00

§ Payment of $22,500 to sinking fund deducted.

d Deficit.

LEASED ROADS.*	49. — PITTSFIELD & NORTH ADAMS.[1]	50. — PROVIDENCE, WEBSTER & SPRINGFIELD.[1]	51. — RHODE ISLAND & MASSACHUSETTS.[2]	52. — STOCKBRIDGE & PITTSFIELD.[3]
ASSETS.				
Construction.	$438,752 57	$242,098 61	$112,321 13	$448,700 00
Other property,	11,247 43	–	–	2,550 00
Cash and current assets,	–	1,589 34	2,618 50	508 13
Other assets,	–	–	–	–
TOTAL ASSETS,	450,000 00	243,687 95	114,939 63	451,758 13
LIABILITIES.				
Capital stock,	$450,000 00	$160,000 00	$100,000 00	$448,700 00
Funded debt,	–	–	–	–
Current liabilities,	–	80,471 45	–	495 25
Surplus June 30, 1890,	–	3,216 50	14,939 63	2,562 88
TOTAL LIABILITIES,	450,000 00	243,687 95	114,939 63	451,758 13
INCOME, EXPENSES, ETC., FOR THE YEAR.				
Total income from all sources,	$22,500 00	$4,977 53	$10,000 00	$31,734 50
Total expenses,	–	1,330 41	79 00	313 15
Interest accrued,	–	4,745 05	–	–
Taxes,	–	588 21	–	7,265 35
Net income,	22,500 00	1,686 14*d*	9,921 00	24,156 00
Dividends declared,	22,500 00	–	10,000 00	24,143 65
Per cent.,	5.0	–	10.0	5.37
Surplus for the year,	–	1,686 14*d*	79 00*d*	12 35

* Leased to and operated by, [1] Boston & Albany, [2] New York & New England, [3] Housatonic of Connecticut.

d Deficit.

LEASED ROADS.*	53. — STONY BROOK.[1]	54. — VERMONT & MASSACHUSETTS.[2]	55. — WARE RIVER.[3]	56. — WEST AMESBURY BRANCH.[1]
ASSETS.				
Construction,	$276,601 19	$3,288,328 01	$1,115,163 82	$114,000 00
Other property,	21,492 38	472,507 65	–	–
Cash and current assets,	410 06	586,746 92	–	667 43
Other assets,	–	–	–	–
TOTAL ASSETS,	298,503 63	4,347,582 58	1,115,163 82	114,667 43
LIABILITIES.				
Capital stock,	$300,000 00	$3,193,000 00	$700,000 00	$57,000 00
Funded debt,	–	1,000,000 00	–	57,000 00
Current liabilities,	–	12,580 30	365,163 82	35 50
Surplus June 30, 1890,	1,496 37*d*	142,002 28	–	631 93
TOTAL LIABILITIES,	300,000 00	4,347,582 58	1,115,163 82	114,667 43
INCOME, EXPENSES, ETC., FOR THE YEAR.				
Total income from all sources,	$15,037 56	$194,580 00	$52,500 00	$5,700 00
Total expenses,	253 24	3,000 00	–	53 02
Interest accrued,	–	–†	–	3,990 00
Taxes,	–	–†	–	433 17
Net income,	14,784 32	191,580 00	52,500 00	1,223 81
Dividends declared,	15,000 00	191,580 00	52,500 00	855 00
Per cent.,	5.0	6.0	7.0	1.5
Surplus for the year,	215 68*d*	–	–	368 81

* Leased to and operated by, [1] Boston & Maine, [2] Fitchburg, [3] Boston & Albany.

† Paid by Fitchburg Railroad Company. *d* Deficit.

LEASED ROADS.*	57. — WEST STOCKBRIDGE. 1	58. — WORCESTER, NASHUA & ROCHESTER. 2	59. — CHELSEA BEACH.†	60. — DANVERS.†
ASSETS.				
Construction,	$39,600 00	$4,138,584 99	$38,310 52	$244,456 02
Other property,	–	415,336 03	–	–
Cash and current assets,	1,590 76	40,921 84	–	–
Other assets,	–	–	–	–
TOTAL ASSETS,	41,190 76	4,594,842 86	38,310 52	244,456 02
LIABILITIES.				
Capital stock,	$39,600 00	$3,099,800 00	$38,300 00	$67,500 00
Funded debt,	–	1,540,000 00	–	150,000 00
Current liabilities,	–	234,887 30	–	26,956 02
Surplus June 30, 1890,	1,590 76	279,844 44*d*	10 52	–
TOTAL LIABILITIES,	41,190 76	4,874,687 30	38,310 52	244,456 02
INCOME, EXPENSES, ETC., FOR THE YEAR.				
Total income from all sources,	$1,950 00	$254,000 00	–	–
Total expenses,	65 25	1,878 56	–	–
Interest accrued,	–	85,927 44	–	–
Taxes,	311 46	–	–	–
Net income,	1,573 29	166,194 00	–	–
Dividends declared,	1,663 20	183,864 00	–	–
Per cent,	4.2	6.0‡	–	–
Surplus for the year,	89 91*d*	17,670 00*d*	–	–

* Leased to, [1] Housatonic of Connecticut, [2] Boston & Maine.

† These roads are virtually owned and operated by the Boston & Maine, and their earnings and expenses are included in the returns of the Boston & Maine Railroad.

‡ On 30,644 shares.

d Deficit.

	61. — Horn Pond Branch.*	62. — Newburyport.†	63. — New York & Boston Inland.‡
Assets.			
Construction,	$15,238 46	$597,386 33	$157,914 07
Other property,	–	–	–
Cash and current assets,	–	–	22 05
Other assets,	–	–	–
Total Assets,	15,238 46	597,386 33	157,936 12
Liabilities.			
Capital stock,	$2,000 00	$220,340 02	$139,960 00§
Funded debt,	–	300,000 00	–
Current liabilities,	–	77,046 31	17,976 12
Surplus June 30, 1890,	13,238 46	–	–
Total Liabilities,	15,238 46	597,386 33	157,936 12

---

* Operated by the Boston & Maine, it being used only for the transportation of ice. No income reported.

† This road is virtually owned by the Boston & Maine, and its earnings and expenses are included in the return of that road.

‡ Obtained a certificate of incorporation, but has not yet commenced the construction of its road.

§ Paid in.

TABULATED COMPARATIVE RESULTS

OF THE

CONDITION AND OPERATION

OF SEVERAL OF THE

RAILROAD CORPORATIONS OF THE STATE.

COMPILED FROM REPORTS.

TABULATED COMPARATIVE RESULTS OF RAILROAD CORPORATIONS.

RAILROADS.	STOCK, DEBT AND COST PER MILE OF ROAD OWNED.					
	64. — Stock paid in.	**65.** — Net Debt.	**66.** — Total Stock and Net Debt.	**67.** — Construction.	**68.** — Equipment.	**69.** — Total Permanent Investments.
Boston & Albany,	$65,382 98	$27,846 44	$93,229 42	$85,068 54	$10,282 78	$97,452 20
Boston & Lowell,	56,370 68	65,174 47	121,545 15	75,413 13	8,498 15	127,720 88
Boston & Maine,	51,624 15	56,748 00	108,372 15	88,300 14	13,866 63	119,138 83
Boston & Providence,	62,743 13	33,825 38	96,568 51	79,151 84	13,665 99	97,760 32
Fitchburg,	69,470 32	59,164 34	128,634 66	112,106 05	12,484 87	129,879 67
New York & New England,	63,080 09	46,311 40	109,391 49	95,323 39	12,339 80	107,940 80
Old Colony,	25,657 21	22,617 28	48,274 49	41,101 54	4,653 41	49,758 77
Average,	$52,820 14	$41,492 86	$97,313 00	$79,998 07	$10,206 14	$97,594 32
Cheshire,	$40,158 52	$12,327 80	$52,486 32	$45,479 03	$7,416 62	$52,895 65
Connecticut River,	32,310 58	997 42	33,308 00	39,243 10	5,341 61	45,832 17
New Haven & Northampton,	19,316 84	29,325 87	48,642 71	45,000 09	6,677 90	51,842 90
New York, New Haven & Hartford,	131,467 35	220 01	121,687 36	127,262 20	24,466 87	157,885 60
Norwich & Worcester,	39,705 41	9,871 69	49,577 10	54,545 67	2,716 91	61,390 56
Providence & Worcester,	69,430 67	12,528 56	81,959 23	70,819 28	16,442 91	87,262 20
Average,	$61,518 68	$11,160 24	$72,678 92	$70,319 55	$11,842 75	$84,599 80
Average 13 roads,	$54,664 06	$35,050 93	$89,714 99	$77,939 03	$10,553 06	$94,830 34

Tabulated Comparative Results of Railroad Corporations — Continued.

RAILROADS.	EARNINGS AND EXPENSES PER MILE ROAD OPERATED.			EARNINGS AND EXP. PER TOTAL REVENUE TRAIN MILE.		
	70. — Total Transportation Earnings.	**71.** — Operating Expenses.	**72.** — Net Earnings.	**73.** — Total Transportation Earnings.	**74.** — Operating Expenses.	**75.** — Net Earnings.
Boston & Albany,	$23,540 94	$14,635 88	$8,905 06	$1.863	$1.158	$0.705
Boston & Maine,	12,055 09	7,716 93	4,338 16	1.548	.991	.557
Fitchburg,	16,952 46	11,786 08	5,166 38	1.430	.994	.436
New York & New England,	12,574 03	8,129 82	4,444 21	1.544	.998	.546
Old Colony,	13,921 45	10,443 15	3,478 30	1.601	1.201	.400
Average,	$14,415 65	$9,692 46	$4,723 19	$1.576	$1.060	$0.516
Cheshire,	$10,089 50	$7,055 49	$3,034 01	$0.913	$0.638	$0.275
Connecticut River,	13,772 56	10,412 21	3,360 35	1.971	1.490	.481
New York, New Haven & Hartford,	21,156 45	14,524 83	6,631 62	1.789	1.228	.561
Providence & Worcester,	30,222 46	18,991 09	11,231 37	2.218	1.394	.824
Average,	$19,959 06	$13,697 09	$6,261 97	$1.761	$1.209	$0.552
Average 9 roads,	$15,468 22	$10,452 85	$5,015 37	$1.618	$1.093	$0.525

Tabulated Comparative Results of Railroad Corporations — Continued.

RAILROADS.	EXPENSES PER TOTAL TRAIN MILE.						
	76.—Repairs of Road.*	**77.**—New Rails.	**78.**—Repairs of Bridges.	**79.**—Repairs of Locomotives.	**80.**—Fuel.	**81.**—Repairs of Passenger, Baggage and Mail Cars.†	**82.**—Repairs of Freight and other Cars.‡
Boston & Albany,	$0.1124	$0.0349	$0.0419	$0.0784	$0.1092	$0.0864	$0.2259
Boston & Maine,	.0974	.0098	.0250	.0519	.0982	.0795	.1273
Fitchburg,	.0964	.0196	.0072	.0421	.0914	.0418	.1142
New York & New England,	.0081	.0014	.0092	.0469	.1135	.0480	.0913
Old Colony,	.1414	.0109	.0137	.0466	.0977	.1194	.1720
Average,	$0.1066	$0.0149	$0.0160	$0.0533	$0.1010	$0.0809	$0.1442
Cheshire,	$0.0620	$0.0037	$0.0548	$0.0374	$0.1377	$0.0368	$0.0361
Connecticut River,	.2528	.0338	.0937	.0759	.0951	.1518	.2148
New York, New Haven & Hartford,	.1273	.0076	.0315	.0352	.0800	.0657	.1025
Providence & Worcester,	.1210	.0289	.0240	.0447	.0796	.0643	.1913
Average,	$0.1310	$0.0116	$0.0333	$0.0396	$0.0857	$0.0718	$0.1040
Average 9 roads,	$0.1121	$0.0141	$0.0199	$0.0501	$0.0976	$0.0787	$0.1356

---

* Including cost of new ties.

† Per passenger train mile.

‡ Per freight train mile.

Tabulated Comparative Results of Railroad Corporations — Continued.

RAILROADS.	REPAIRS.			AVERAGES, ETC.			
	83. — Per Locomotive.	**84.** — Per Passenger, Baggage and Mail Car.	**85.** — Per Freight and other Car.	**86.** — Per Passenger: Average Distance travelled.	**87.** — Per Ton of Freight: Average Distance carried.	**88.** — Average No. of Passengers per Train Mile.	**89.** — Average No. of Tons of Freight per Train Mile.
Boston & Albany,	$1,945 78	$679 59	$78 96	18.28	103.59	78	171
Boston & Maine,	1,352 39	552 73	53 65	13.32	61.09	69	107
Fitchburg,	1,271 39	373 56	48 25	15.55	98.22	48	157
New York & New England,	1,241 93	367 66	35 45	13.42	94.93	51	157
Old Colony,	1,299 92	698 56	72 66	11.70	36.69	73	77
Average,	$1,427 92	$571 37	$57 71	13.77	77.66	67	134
Cheshire,	$874 47	$173 91	$34 42	28.91	56.16	33	93
Connecticut River,	1,372 70	967 72	53 51	10.21	25.01	47	144
New York, New Haven & Hartford,	1,235 56	415 89	54 26	24.73	69.76	88	107
Providence & Worcester,	-	-	-	8.15	29.37	61	142
Average,	$1,226 43	$450 05	$46 60	20.42	54.46	80	109
Average 9 roads,	$1,387 14	$540 45	$55 53	15.08	72.05	70	129

Tabulated Comparative Results of Railroad Corporations — Concluded.

RAILROADS.	**90.** — Passenger Earnings.	**91.** — Freight Earnings.	**92.** — Other Earnings from Operation.	**93.** — Total Transportation Earnings.	**94.** — Operating Expenses.	**95.** — Net Earnings.	**96.** — Per cent. Operating Expenses to Trans. Earnings.
Boston & Albany, . .	$4,250,062 17	$4,614,587 56	$286,419 26	$9,151,068 99	$5,689,404 76	$3,461,664 23	62
Boston & Maine, . .	7,784,592 41	6,788,585 06	13,848 23	14,587,025 70	9,337,717 46	5,249,308 24	64
Fitchburg, ...	1,995,094 23	4,146,420 61	115,300 49	6,256,815 33	4,350,007 96	1,906,807 37	70
New York & New England, ...	2,251,763 33	3,521,536 93	76,391 44	5,849,691 70	3,782,157 47	2,067,534 23	65
Old Colony, . . .	4,846,021 09	2,999,411 93	–	7,845,433 02	5,885,238 37	1,960,194 65	75
Cheshire, ...	202,896 67	442,932 22	–	645,828 89	451,621 63	194,207 26	73
Connecticut River, . .	496,419 13	592,953 00	10,366 35	1,099,738 48	831,414 82	268,323 66	76
New York, New Haven & Hartford, . . .	6,178,367 99	4,520,763 07	50,036 48	10,749,167 54	7,379,774 49	3,369,393 05	69
Providence & Worcester,	616,030 65	892,098 22	15,385 19	1,523,514 06	957,340 97	566,173 09	63

COMPARISON OF RETURNS

1889 with 1890,

AND

SUMMARY TAKEN FROM RETURNS

OF

1884–1885–1886–1887–1888–1889–1890.

Summary taken from Returns of 1889 and 1890.

	1889.	1890.	Increase.	Decrease.
Roadway.	Miles.	Miles.	Miles.	Miles.
Length of road and branches, .	3,090.739	3,209.624	118.885	–
in Massachusetts,	2,066.772	2,088.872	22.100	–
Length of double track, . .	1,086.569	1,098.499	11.930	–
in Massachusetts,	783.669	795.599	11.930	–
Length of sidings, ...	1,448.644	1,516.275	67.631	–
in Massachusetts,	1,018.559	1,052.225	33.666	–
Total length as single track, .	5,625.952	5,824.398	198.446	–
in Massachusetts,	3,869.000	3,936.696	67.696	–
Length of steel rails in track, .	4,270.394	4,592.550	322.156	–
Length of iron rails in track, .	1,355.558	1,231.848	–	123.710
Total miles of road operated, .	3,944.365	3,953.435	9.070	–
in Massachusetts,	2,076.788	2,081.296	4.508	–
Highway crossings at grade, .	2,218	2,234	16	–
protected, .	922	956	34	–
unprotected,	1,296	1,278	–	18
Assets.				
Construction, ...	$215,034,559 94	$224,450,132 41	$7,415,572 47	–
Equipment, ...	24,918,060 93	27,358,600 74	2,440,539 81	–
Bonds, ...	1,204,675 93	1,777,368 01	572,692 08	–
Stocks, ...	8,795,010 03	8,896,177 59	101,167 56	–
Lands, ...	2,607,543 70	2,075,034 47	–	$532,509 23
Other property, ...	3,542,905 78	3,513,268 07	–	29,637 71
Total permanent investments, .	$256,102,756 31	$266,070,581 29	$9,967,824 98	–
Cash, ...	$3,598,814 28	$4,357,415 89	$758,601 61	–
Bills receivable, ...	2,326,389 70	2,349,548 81	23,159 11	–
Other current assets, . . .	9,988,373 09	10,498,890 03	510,516 94	–
Total cash and current assets, .	$15,913,577 07	$17,205,854 73	$1,292,277 66	–
Materials and supplies, . .	4,765,430 04	4,425,525 71	–	$339,904 33
Other assets, ...	7,516,123 88	4,307,005 59	–	3,209,118 29
Total other assets, ...	$12,281,553 92	$8,732,531 30	–	$3,549,022 62
Profit and loss balance (deficit),	2 287,621 16	1,372,384 04	–	915,237 12
Total assets as per balance sheet,	$286,585,508 46	$293,381,351 36	$6,795,842 90	–
Liabilities.				
Capital stock, common, . .	$123,653,050 02	$128,951,350 02	$5,298,300 00	–
Capital stock, preferred, . .	28,128,654 00	28,292,166 13	163,512 13	–
Total capital stock, ...	$151,781,704 02	$157,243,516 15	$5,461,812 13	–
Funded debt, ...	100,404,870 17	102,718,868 30	2,313,998 13	–
Current liabilities, ...	21,601,289 52	19,202,031 06	–	$2,399,258 46
Profit and loss balance (surplus),	12,797,644 75	14,216,935 85	1,419,291 10	–
Total liabilities as per balance sheet, ...	$286,585,508,46	$293,381,351 36	$6,795,842 90	–
Total number of stockholders, .	40,555	41,647	1,092	–
in Massachusetts,	29,612	30,268	656	–
Stock held in Massachusetts, .	$93,726,145 02	$100,105,945 02	$6,379,800 00	–
Persons employed, ...	38,909	40,350	1,441	–

Summary taken from Returns of 1889 and 1890.

	1889.	1890.	Increase.	Decrease.
General Exhibit for the Year.				
Gross earnings from operation,	$55,856,900 85	$59,230,760 62	$3,373,859 77	–
Operating expenses, . . .	37,652,736 07	39,660,713 43	2,007,977 36	–
Income from operation, . .	18,204,164 78	19,570,047 19	1,365,882 41	–
Income from lease of road, .	3,856,251 83	4,909,128 96	1,052,877 13	–
Income from other sources, .	1,260,676 61	1,479,445 78	218,769 17	–
Total income (less operating expenses), ...	23,321,093 22	25,958,621 93	2,637,528 71	–
Interest accrued, ...	5,909,669 49	5,776,570 08	–	$133,099 41
Taxes, ...	2,700,150 44	2,889,156 03	189,005 59	–
Rentals, ...	5,444,303 70	6,318,439 77	874,136 07	–
Other deductions, ...	225,199 58	244,378 15	19,178 57	–
Total deductions, ...	14,279,323 21	15,228,544 03	949,220 82	–
Dividends earned, ...	9,041,770 01	10,730,077 90	1,688,307 89	–
per cent., ...	5.96	6.82	0.86	–
Dividends declared, ...	7,380,366 75	8,450,560 39	1,070,193 64	–
per cent., ...	4.86	5.37	0.51	–
Balance for the year, . . .	1,661,403 26	2,279,517 51	618,114 25	–
Transportation Earnings.				
From passengers, ...	$25,396,136 85	$26,562,776 33	$1,166,639 48	–
mails, ...	822,142 49	873,118 81	50,976 32	–
express, ...	1,466,880 68	1,524,710 27	57,829 59	–
extra baggage and storage,	159,553 02	161,634 07	2,081 05	–
other sources, . . .	309,836 38	315,472 49	5,636 11	–
Total passenger department, .	$28,154,549 42	$29,437,711 97	$1,283,162 55	–
From freight, ...	$26,522,639 57	$28,663,295 35	$2,140,655 78	–
other sources, . . .	541,424 00	561,918 84	20,494 84	–
Total freight department, . .	$27,064,063 57	$29,225,214 19	$2,161,150 62	–
From other earnings, . . .	638,287 86	567,834 46	–	$70,453 40
Total earnings from operation, .	$55,856,900 85	$59,230,760 62	$3,373,859 77	–
Mileage, Traffic, etc.				
Train miles, passenger, . .	20,316,766	21,020,064	703,298	–
freight, . . .	14,008,891	15,306,155	1,297,264	–
mixed, . . .	215,058	301,714	86,656	–
Total revenue-train miles, . .	34,540,715	36,627,933	2,087,218	–
Miles run by other trains, . .	8,541,708	8,820,432	278,724	–
Total train miles, . . .	43,082,423	45,448,365	2,365,942	–
Passengers, total number, . .	93,529,299	98,843,712	5,314,413	–
total mileage, . .	1,356,281,981	1,458,149,088	101,867,107	–
Freight, total tons carried, .	25,482,103	27,944,501	2,462,398	–
total mileage, . .	1,771,581,781	1,976,652,769	205,070,988	–
Equipment.				
Locomotives, ...	1,621	1,643	22	–
Passenger cars, ...	2,576	2,601	25	–
Mail, baggage and express cars,	460	463	3	–
Freight cars (basis 8 wheels), .	34,890	34,976	86	–

Summary taken from Returns of 1884, 1885, 1886, 1887, 1888, 1889, 1890.

	1884.	1885.	1886.	1887.	1888.	1889. §	1890. §
Main line in Massachusetts, . .	1,973.708	1,981.688	1,989.508	2,018.258	2,063.918	2,066.772	2,088.872
Double track in Massachusetts, .	667.889	699.639	733.919	740.389	743.469	783.669	795.599
Sidings in Massachusetts, . .	832.393	855.300	892.676	964.330	1,010.026	1,018.559	1,052.225
Total in Massachusetts, . .	3,473.990	3,536.627	3,616.103	3,722.977	3,817.413	3,869.000	3,936.696
Amount of capital stock, . .	$127,668,390 27	$128,551,658 54	$130,687,969 02	$150,469,414 02	$151,076,704 02	$151,781,704 02	$157,243,516 15
Amount of stock held in Mass., .	85,332,908 02	85,444,154 02	84,734,764 02	92,728,240 02	94,212,555 02	93,726,145 02	100,105,945 02
Number of stockholders, . .	39,205	39,440	38,876	39,705	40,242	40,555	41,647
Stockholders in Massachusetts, .	28,513	28,532	28,478	29,806	29,219	29,612	30,268
Gross debt, ...	$91,752,883 99	$93,782,585 30	$93,473,072 39	$108,107,021 13	$116,099,547 92	$122,006,159 69	$121,920,899 36
Net debt, ...	74,439,473 75	73,706,622 04	71,012,497 49	81,646,094 60	92,088,750 60	106,092,582 62	104,715,044 63
Cost of construction, . . .	$176,899,373 56	$177,392,457 66	$178,013,772 71	$207,660,619 30	$211,245,282 40	$215,034,559 94	$222,450,132 41
Cost of equipment, . . .	22,041,997 09	22,680,642 08	22,465,263 04	22,743,981 34	24,387,881 96	24,918,060 93	27,358,600 74
Cost of other property, . . .	12,940,503 89	13,612,864 16	13,775,033 77	14,473,888 09	14,826,428 61	16,150,135 44	16,261,848 14
Total permanent investment, .	211,881,874 54	213,685,963 90	214,254,069 52	244,878,488 73	250,459,592 97	256,102,756 31	266,070,581 29
Cash and cash assets, . . .	17,313,410 24	20,075,963 26	22,460,574 90	26,460,926 53	24,010,797 32	15,913,577 07	17,205,854 73
Improvement and similar accounts,	–	–	–	–	4,646,847 37	12,281,553 92	8,732,531 30
Total property and assets, . .	229,195,284 78	233,761,927 16	236,714,644 42	271,339,415 26	279,117,237 66	284,297,887 30	292,008,967 32
Total income from all sources, .	$43,119,302 70	$44,623,350 35	$49,315,820 50	$53,650,438 27	$58,805,604 24	–	–
Total expense,*	32,070,684 51	32,504,375 47	35,887,239 18	40,417,503 92	45,918,962 15	–	–
Net income, ...	11,048,618 19	12,118,974 88	13,428,581 32	13,232,934 35	12,886,642 09	–	–
Gross earnings from operation, .	–	–	–	–	–	$55,856,900 85	$59,230,760 62
Operating expenses, . . .	–	–	–	–	–	37,652,736 07	39,660,713 43
Income from operation, . .	–	–	–	–	–	18,204,164 78	19,570,047 19
Income from lease of road, . .	–	–	–	–	–	3,856,251 83	4,909,128 96
Income from other sources, . .	–	–	–	–	–	1,260,676 61	1,479,445 78
Total income (less operating expenses), ...	–	–	–	–	–	23,321,093 22	25,958,621 93
Interest accrued, ...	4,729,328 56	4,767,095 88	4,810,019 68	4,880,512 85	5,506,299 90	5,909,669 49	5,776,570 08

Taxes,	–	–	–	–	–	2,700,150 44	2,889,156 03
Rentals,	–	–	–	–	–	5,444,303 70	6,318,439 77
Other deductions,	–	–	–	–	–	225,199 58	244,378 15
Total deductions,	–	–	–	–	–	14,279,323 21	15,228,544 03
Dividends earned,	6,319,289 63	7,351,879 00	8,618,561 64	8,352,421 50	7,380,342 19	9,041,770 01	10,730,077 90
Percentage to capital stock,	4.95	5.72	6.70	5.55	4.88	5.96	6.82
Dividends declared,	6,535,054 92	6,551,704 15	6,857,506 30	7,550,901 61	7,986,226 10	7,380,366 75	8,450,560 39
Per cent.,	5.12	5.10	5.33	5.02	5.29	4.86	5.37
Balance for the year,	‡215,765 29	800,174 85	1,761,055 34	801,519 89	‡605,883 91	1,661,403 26	2,279,517 51
Total surplus, Sept. 30,	9,774,010 52	11,427,683 32	12,553,603 01	12,762,980 11	11,940,985 72	10,510,023 59	12,844,551 81
Taxes paid,	$2,024,559 81	$2,063,204 62	$2,106,565 25	$2,502,129 12	$2,785,326 61	$2,700,150 44	$2,889,156 03
Mileage, passenger trains,	15,157,425	16,212,988	17,268,159	18,522,488	20,262,326	20,316,766	21,020,064
Mileage, freight trains,	11,282,338	11,722,667	12,303,808	13,057,794	13,693,603	14,008,891	15,306,155
Mileage, other trains,	5,864,570	6,233,344	6,869,076	7,810,797	8,538,740	8,756,766	9,122,146
Total train mileage,	32,304,333	34,168,999	36,441,043	39,391,079	42,494,669	43,082,423	45,448,365
Total passenger mileage,	1,007,136,376	1,041,628,073	1,124,148,045	1,242,031,078	1,303,094,023	1,356,281,981	1,458,149,088
Through passenger mileage,†	245,506,939	245,334,025	258,793,501	285,555,822	292,711,776	–	–
Total freight mileage,	1,229,368,472	1,266,160,455	1,391,626,438	1,517,932,012	1,685,923,614	1,771,581,781	1,976,652,769
Through freight mileage,†	870,891,828	887,168,408	980,366,552	1,085,661,320	1,234,286,687	–	–
Total passengers carried,	66,517,265	69,603,700	75,842,581	82,923,364	89,686,412	93,529,299	98,843,712
Total tons of freight carried,	20,273,920	20,577,096	22,925,532	24,605,140	25,787,383	25,482,103	27,944,501
Total season-ticket passengers,	11,436,929	10,694,750	10,810,716	11,104,632	11,486,485	–	–
Number persons employed,	30,590	30,069	31,188	35,300	38,928	38,909	40,350
Locomotives,	1,391	1,416	1,445	1,550	1,635	1,621	1,643
Passenger cars,	1,948	1,993	2,058	2,191	2,453	2,576	2,601
Mail and baggage cars,	525	509	518	564	581	460	463
Freight cars,	29,701	29,957	31,319	34,200	34,808	34,890	34,976
Steel rails,	3,121.720	3,336.476	3,573.910	3,903.167	4,190.303	4,270.394	4,592.550
Iron rails,	1,836.857	1,703.546	1,554.932	1,586.382	1,368.477	1,355.558	1,231.848

---

* Including operating expenses, taxes and rentals. † Mileage to and from other roads. ‡ Deficit. § Year ending June 30.

PART II.

RAILROAD REPORTS

FOR THE

YEAR ENDING JUNE 30, 1890.

[AS CORRECTED BY THE BOARD.]

REPORT

OF THE

ATTLEBOROUGH BRANCH RAILROAD COMPANY,

For the Year ending June 30, 1890.

[This road is leased to the Boston & Providence Railroad Company and is operated by the Old Colony Railroad Company.]

Income Account.

General Exhibit for the Year.

Income from lease of road,	$9,219 00
Net income,	9,219 00
Dividends declared (7 per cent.),	9,219 00
Balance Profit and Loss Account June 30, 1889 (surplus),	760 14
Deduct: Paid for legal services,	134 00
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),	626 14

General Balance Sheet, June 30, 1890.

Dr.		
Cost of road,	$131,416 48	
Bonds of United States,	1,000 00	
TOTAL PERMANENT INVESTMENTS,		$132,416 48
Cr.		
Capital stock,		$131,700 00
Current liabilities:		
Interest coupons,	$70 00	
Cash advanced by Treasurer,	20 34	
TOTAL CURRENT LIABILITIES,		90 34
Profit and Loss balance,		626 14
TOTAL,		$132,416 48

Capital Stock.

Capital stock authorized by charter,	$133,000 00	
Capital stock authorized by votes of company,	131,700 00	
Capital stock issued (number of shares, 1,317); amount paid in,		$131,700 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		131,700 00
Total number of stockholders,	44	
Number of stockholders in Massachusetts,	42	
Amount of stock held in Massachusetts,	$123,800 00	

Description of Road Owned.	
Main line of road from Attleborough to North Attleborough,	4 miles.
Main line of road in Massachusetts, ...	4 "
Total road belonging to this company, ...	4 "
Sidings and other tracks not before enumerated, . . .	1 mile.
Same in Massachusetts, ...	1 mile.
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	5 miles.
Same in Massachusetts, ...	5 "
Total length of tracks laid with steel rails, ...	4 "
General Information.	
Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade, ...	11
Number of crossings of highways over railroad, . . .	1
Number of crossings of highways under railroad, . . .	1
Number of highway bridges 18 feet above track, . . .	1
Height of lowest bridge above the rail, ...	18 feet.
Number of crossings at which gates or flagman are maintained,	6
Number of crossings at which there are neither signals nor flagman, ...	5

NAME AND RESIDENCE OF OFFICERS.

H. F. Barrows, *President*, North Attleborough, Mass. H. N. Daggett, *Treasurer*, Attleborough Falls, Mass. J. R. Bronson, *Clerk of Corporation*, Attleborough, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

H. F. Barrows, North Attleborough, Mass. H. N. Daggett, Attleborough Falls, Mass. J. R. Bronson, Attleborough, Mass. F. M. Whiting, North Attleborough, Mass. A. A. Folsom, Boston, Mass.

PROPER ADDRESS OF THE COMPANY.

ATTLEBOROUGH BRANCH RAILROAD COMPANY,
ATTLEBOROUGH FALLS, MASS.

H. N. DAGGETT,
F. M. WHITING,
Directors.
H. N. DAGGETT,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

BRISTOL ss. Aug. 7, 1890. Then personally appeared the above-named H. N. Daggett and Frank M. Whiting, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

JOSEPH E. POND,
Justice of the Peace.

REPORT

OF THE

BERKSHIRE RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Housatonic Railroad Company of Connecticut.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,	$42,000 00	
Interest on stock owned (80 shares Berkshire stock),	428 11	
Miscellaueous income, less expense (interest on balance in bank),	13 23	
TOTAL INCOME,		$42,441 34
Salaries and maintenance of organization,	$605 10	
Taxes,	9,891 84	
TOTAL,		10,496 94
NET INCOME,		31,944 40
Dividends declared ($5\frac{35}{100}$ per cent.),		32,108 18
Deficit for the year ending June 30, 1890,		163 78
Balance Profit and Loss Account June 30, 1889 (surplus),		14,157 72
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		13,993 94

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$600,000 00	
Stock of Berkshire Railroad (80 shares),	6,000 00	
TOTAL PERMANENT INVESTMENTS,		$606,000 00
Cash,		8,239 01
TOTAL,		$614.239 01

CR.

Capital stock,	$600,000 00
Dividends not called for,	245 07
Profit and Loss Balance,	13,993 94
TOTAL,	$614,239 01

Capital Stock.

Capital stock authorized by charter, . .	$800,000 00	
Capital stock authorized by votes of company,	600,000 00	
Capital stock issued (number of shares 6,000); amount paid in, ...		$600,000 00
Total Amount paid in as per Books of the Company,		600,000 00
Total number of stockholders, ...	234	
Number of stockholders in Massachusetts, . . .	140	
Amount of stock held in Massachusetts, . .	$396,400 00	

Description of Road Owned.

Main line of road from Sheffield to West Stockbridge, . .	22 miles.
Main line of road in Massachusetts, ...	22 miles.

Name and Residence of Officers.

Henry T. Robbins, *President*, Great Barrington, Mass. Daniel R. Williams, *Treasurer and Clerk of Corporation*, Stockbridge, Mass.

Name and Residence of Directors last elected.

Henry T. Robbins, Great Barrington, Mass. F. T. Whiting, Great Barrington, Mass. Chas. J. Taylor, Great Barrington, Mass. George Church, Great Barrington, Mass. Daniel R. Williams, Stockbridge, Mass.

Proper Address of the Company.

BERKSHIRE RAILROAD COMPANY,
Stockbridge, Mass.

HENRY T. ROBBINS,
D. R. WILLIAMS,
F. T. WHITING,
CHAS. J. TAYLOR,
Directors.
D. R. WILLIAMS,
Treasurer.

Commonwealth of Massachusetts.

Berkshire, ss. July 1, 1890. Then personally appeared Henry T. Robbins, D R Williams, F. T. Whiting and Chas. J. Taylor, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

F. N. DELAND,
Notary Public.

REPORT

OF THE

BOSTON & ALBANY RAILROAD COMPANY,

For the Year ending June 30, 1890.

Income Account.

General Exhibit for the Year.

Gross earnings from operation,	$9,151,068 99	
Less operating expenses,	3,689,404 76	
Income from operation,		$3,461,664 23
Total Income,		5,461,664 23
Deductions from income:		
Interest on funded debt accrued during year,	$662,900 00	
Taxes,	587,373 38	
Rentals:		
Ware River Railroad,	52,500 00	
Pittsfield & North Adams Railroad,	22,500 00	
North Brookfield Railroad,	3,000 00	
Total deductions from income,		1,328,273 38
Net Income,		2,133,390 85
Dividends declared (8 per cent. on common stock),	$1,600,000 00	
Total,		1,600,000 00
Surplus for Year ending June 30, 1890,		533,390 85
Balance Profit and Loss Account June 30, 1889 (deficit),		500,793 92
Balance Profit and Loss Account June 30, 1890 (surplus),		32,596 93

Earnings from Operation.

Items.	Total Receipts.	Deductions Account of Repayments, etc.	Actual Earnings.
Passenger:			
Passenger revenue,	$3,775,712 32		
Less repayments:			
Tickets redeemed,		$13,646 65	
Excess fares refunded,		24,773 15	
Total deductions,		$38,419 80	
Total Passenger Revenue,			$3,737,292 52
Mail,	$209,130 04		
Express,	260,109 55		
Extra baggage and storage,	35,715 66		
Other items,	7,814 40		512,769 65
Total Passenger Earnings,			$4,250,062 17

EARNINGS FROM OPERATION — Concluded.

ITEMS.	Total Receipts.	Deductions Account of Repayments, etc.	Actual Earnings.
Freight:			
Freight revenue,	$4,507,151 16		
Less payments:			
Overcharge to shippers,	. . .	$60,565 54	
Total deductions,	. . .	$60,565 54	
TOTAL FREIGHT REVENUE,	. . .	. . .	$4,446,585 62
Elevators, wharves and warehouses,	$160,931 79		
Other items,	7,070 15		
			168,001 94
TOTAL FREIGHT EARNINGS,	. . .	. . .	$4,614,587 56
TOTAL PASSENGER AND FREIGHT EARNINGS,	. . .	. . .	$8,864,649 73
Other earnings from operation:			
Rentals not otherwise provided for,	$151,575 31		
Other sources,	134,843 95		
TOTAL OTHER EARNINGS,	. . .	. . .	286,419 26
TOTAL GROSS EARNINGS FROM OPERATION,	. . .	. . .	$9,151,068 99

OPERATING EXPENSES.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures:			
Repairs of roadway,	$247,412 16	$274,884 98	$522,297 14
Renewals of rails,	98,574 60	109,520 40	208,095 00
Renewals of ties,	69,932 93	77,698 33	147,631 26
Repairs of bridges and culverts	41,935 07	46,591 58	88,526 65
Repairs of fences, road-crossings, signs and cattle guards,	10,975 43	12,194 64	23,169 57
Repairs of buildings,	79,232 73	88,030 79	167,263 52
Repairs of docks and wharves,	–	5,488 39	5,488 39
TOTAL,	$548,062 92	$614,408 61	$1,162,471 53
Maintenance of equipment:			
Repairs and renewals of locomotives,	$221,212 31	$245,775 89	$466,988 20
Repairs and renewals of passenger cars,	221,547 20	–	221,547 20
Repairs and renewals of freight cars,	–	530,301 99	530,301 99
TOTAL,	$442,759 51	$776,077 88	$1,218,837 39
Conducting transportation:			
Wages of enginemen, firemen and roundhouse-men,	$212,759 70	$236,384 70	$449,144 40
Fuel for locomotives,	308,293 05	342,526 13	650,819 18
Water supply for locomotives,	17,290 76	19,210 74	36,501 50
All other supplies for locomotives,	28,638 05	31,818 05	60,456 10
Wages of other trainmen,	273,509 43	826,909 36	600,418 79
All other train supplies,	11,842 74	1,706 39	13,549 13
Wages of switchmen, flagmen and watchmen,	107,520 77	119,459 95	226,980 72
Expense of telegraph, including train despatchers and operators,	9,986 25	37,846 29	47,832 54
Wages of station agents, clerks and laborers,	318,735 93	354,128 60	672,864 53
Station supplies,	40,396 01	44,881 61	85,277 62
Car mileage — balances,	–	17,645 52	17,645 52
Loss and damage,	8,634 67	9,593 48	18,228 15
Injuries to persons,	34,506 49	38,338 12	72,844 61
Other expenses,	16,679 56	18,531 68	35,211 24
TOTAL,	$1,388,793 41	$1,598,980 62	$2,987,774 03

---

* See foot-note, page 9.

OPERATING EXPENSES — Concluded.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
General expenses:			
Salaries of officers,	$51,508 17	$57,227 68	$108,735 85
Salaries of clerks,	30,255 89	33,615 53	63,871 42
Agencies, including salaries and rent,	2,618 62	2,909 40	5,528 02
Advertising,	2,311 93	2,568 64	4,880 57
Insurance,	9,256 15	10,283 95	19,540 10
Expense of fast freight lines,	–	16,656 99	16,656 99
Expense of traffic associations,	2,276 47	2,529 25	4,805 72
Expense of stock yards and elevators,	–	37,520 97	37,520 97
Rentals not otherwise provided for,	2,368 50	2,631 50	5,000 00
Legal expenses,	8,246 26	9,161 93	17,408 19
Stationery and printing,	17,230 35	19,143 63	36,373 98
TOTAL,	$126,072 34	$194,249 47	$320,321 81
Recapitulation of expenses:			
Maintenance of way and structures,	$548,062 92	$614,408 61	$1,162,471 53
Maintenance of equipment,	442,759 01	776,077 88	1,218,837 39
Conducting transportation,	1,388,793 41	1,598,980 62	2,987,774 03
General expenses,	126,072 34	194,249 47	320,321 81
GRAND TOTAL,	$2,505,688 18	$3,183,716 58	$5,689,404 76
Percentage of operating expenses to earnings,	. . .	. . .	62.17

* The items in these columns which are not directly chargeable to either passenger or freight business are to be apportioned between the two on the basis of train mileage as prescribed by the Interstate Commerce Commission. The result, therefore, is not accurate, but only approximate, and this fact must be borne in mind in drawing conclusions therefrom.

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Springfield improvements,		$201,115 95
TOTAL CHARGES TO PROPERTY ACCOUNTS,		201,115 95
Lands,	$1,619 71	
Total credits to property accounts,		1,619 71
NET ADDITION TO PROPERTY ACCOUNT FOR THE YEAR,		199,496 24

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$26,021,614 84	
Cost of equipment,	3,145,400 00	
Stock of Hudson River bridges,	475,485 00	
Real estate,	167,153 59	
TOTAL PERMANENT INVESTMENTS,		$29,809,653 43
Cash,	$943,986 72	
Bills receivable,	50,000 00	
Due from solvent companies and individuals,	365,163 82	
TOTAL CASH AND CURRENT ASSETS,		1,359,150 54
Other assets:		
Materials and supplies,	$325,063 27	
Trustees' improvement fund,	1,559,108 55	
TOTAL OTHER ASSETS,		1,884,171 82
TOTAL,		$33,052,975 79

Cr.

Capital stock,		$20,000,000 00
Funded debt,		10,858,000 00
Current liabilities:		
Ledger balances,	$263,068 38	
Dividends not called for,	340,938 00	
Matured interest coupons unpaid (including coupons due July 1),	61,820 00	
Accrued interest on funded debt and rentals not yet payable,	195,558 33	
Rentals due July 1,	37,500 00	
Due Pittsfield & North Adams Railroad,	4,385 60	
TOTAL CURRENT LIABILITIES,		903,270 31
Profit and Loss balance,		32,596 93
Improvement fund,		1,180,105 88
Ware River sinking fund,		79,002 67
TOTAL,		$33,052,975 79

CAPITAL STOCK.

Capital stock authorized by charter,	$30,000,000 00	
Capital stock authorized by votes of company,	20,000,000 00	
Capital stock issued (number of shares, 200,000); amount paid in,		$20,000,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		$20,000,000 00
Total number of stockholders,	7,091	
Number of stockholders in Massachusetts,	6,081	
Amount of stock held in Massachusetts,	$17,094,400 00	

DEBT.

Funded debt, as follows:		
Bonds due Feb. 1, 1892, rate of interest 7 per cent.,		$5,000,000 00
Interest paid on same during year,	$350,000 00	
Bonds due July 1, 1895, rate of interest 6 per cent.,		2,0000,00 00
Interest paid on same during year,	$120,000 00	
Bonds due April 1, 1902, rate of interest 5 per cent.,		3,858,000 00
Interest paid on same during year,	$192,900 00	
TOTAL AMOUNT OF FUNDED DEBT,		$10,858,000 00

PASSENGER, FREIGHT AND TRAIN MILEAGE.

Passenger traffic:	
Number of passengers carried earning revenue,	11,002,597
Number of passengers carried one mile,	201,128,880
Average distance carried,	18.28
Total passenger revenue,	$3,737,292 52
Average amount received from each passenger,	33.97 cents.
Average receipts per passenger per mile,	1.858 "
Estimated cost of carrying each passenger one mile,*	1.245 "
Passenger earnings per mile of road,	$9,614 11
Passenger earnings per train mile,	1 36
Freight traffic:	
Number of tons carried of freight earning revenue,	3,883,115
Number of tons carried one mile,	402,241,138
Average distance haul of one ton,	103.59
Total freight revenue,	$4,446,585 62

---

* See note under "Operating Expenses."

Average amount received for each ton of freight,	$1 14-5
Average receipts per ton per mile,	1.10 cents.
Estimated cost of carrying one ton one mile,*	.791 "
Freight earnings per mile of road,	$11,438 75
Passenger and freight:	
Passenger and freight earnings,	$8,183,878 14
Passenger and freight earnings per mile of road,	21,052 86
Expense per mile of road,	14,635 88
Total earnings per mile of road, including mails, express, etc.,	23,540 94
Train mileage:	
Miles run by passenger trains,	2,565,133
Miles run by freight trains,	2.346,960
Total mileage trains earning revenue,	4,912,093
Miles run by switching trains,	883,017
Miles run by construction and other trains,	165,190
Total train mileage,	5,960,300
Average number of freight cars in train,	30
Average number of persons employed,	5,261
Rates of fare:	
Average rate of fare per mile received for local and commutation tickets,	1.873 cents.
Average rate of fare per mile received for mileage tickets,	2 "
Average rate of fare per mile received for season tickets,	.61 "
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies,	2.078 "
Rates of freight:	
Average rate per ton per mile received from freight way-billed local,	1.71 "
Average rate per ton per mile received from freight way-billed jointly with other railroads and transportation companies,	.80 "
Relating to passengers:	
Passengers to Boston (including season),	3,296,241
Passengers from Boston (including season),	3,318,910
Season-ticket passengers to and from Boston,	630,763

Description of Road Owned.

Main line of road from Boston to Albany,	201.65 miles.
Main line of road in Massachusetts,	162.35 "
Main line of road in New York,	39.30 "
Double track on main line,	201.65 "
Same in Massachusetts,	162.35 "
Third track on main line,	9.49 "
Same in Massachusetts,	9.49 "
Fourth track on main line,	9.47 "
Same in Massachusetts,	9.47 "
Branches owned by company, viz.:	
Newton Highlands (9.89 miles double track),	9.93 "
Grand Junction (5.11 miles double track),	9.45 "
Newton Lower Falls (single track),	1.10 "
Saxonville (single track),	3.70 "
Milford (single track),	12 "
Millbury (single track),	3 "
Spencer (single track),	2.18 "
Athol (single track),	45.26 "
Athol operated by the New York & New England R.R.,†	.29 "
Chatham & Hudson (1 mile double track),	17.33 "
Total length of branches owned by the company,	104.24 "

---

* See note under "Operating Expenses."

† Operated under lease which expires Jan. 1, 1891.

Total length of branches owned by company in Massachusetts,	86.91 miles.
Total length of branches owned by company in New York,	17.33 "
Double track on branches,	16.00 "
Same in Massachusetts,	15.00 "
Total road belonging to this company,	305.89 "
Sidings and other tracks not before enumerated,	219.79 "
Same in Massachusetts,	185.79 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	762.29 "
Same in Massachusetts,	631.36 "
Total length of tracks laid with steel rails,	727.75 "
[Weights per yard, 63 and 72 pounds.]	

Roads and Branches belonging to Other Companies, operated by this Company under Lease or Contract, the Operations of which are included in this Return.

Pittsfield and North Adams, length,	18 55 miles.
Ware River, length,	49.35 "
North Brookfield, length,	4 "
Providence, Webster and Springfield, length,	11.23 "
Total length of above roads,	83.13 "
Total length of above roads in Massachusetts,	83.13 "
Total miles of road operated by this company,	388.73 "
Total miles of road operated by this company in Massachusetts,	332.10 "
Number of stations in Massachusetts on all roads operated by this company,	112
Number of telegraph offices in same,	81
Number of stations on all roads owned by this company,	103
Same in Massachusetts,	88

GENERAL INFORMATION.

New Bridges of over Ten Feet Span built within the Year on Roads operated in Massachusetts (including Those replacing Old Structures and Those built where None before existed).

Location.	To Replace.	Description.	Length of Spans and Number of Tracks.	When and by Whom Built.
Brimfield,	Over highw'y.	Plate girder.	23 ft. 9 in., 2 tracks.	July, 1889. R. F. Hawkins.
Springfield,	New.	Plate girder.	23 ft. 10 in., 6 tracks.	1890. Norcross Bros.
Springfield,	New.	Stone arch.	69 ft. 5 in., 5 tracks.	1890. Norcross Bros.
Greenwich,	Wood.	Plate girder.	39 ft. 3 in., 1 track.	August, 1889. R. F. Hawkins.
Cheshire,	Wood.	Lattice.	82 ft. 6 in., 1 track.	August, 1889. R. F. Hawkins.
Indian Orchard,	Wood.	Lattice.	263.34 ft., 1 track.	1890. R. F. Hawkins.

Bridges and Roads operated in Massachusetts.

Total length of pile and trestle bridging,	3,334 72 ft.
Bridges extensively repaired during the year (specify how):	
No. 61. Northerly truss strengthened.	
No. 118. Additional girders put in.	
Total amount expended for repairs and renewals of bridges,	$88,526 65

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade,*	214
Number of crossings of highways over railroad,	79
Number of crossings of highways under railroad,	43
Number of highway bridges 18 feet above track,	29
Number of highway bridges less than 18 feet above track,	50
Height of lowest bridge above the rail,	14.25 ft.
Number of crossings at which gates or flagman are maintained,	93
Number of crossings at which electric signals are maintained,	4
Number of crossings at which there are neither signals nor flagman,	117
Number of railroad crossings at grade (specifying each),	13
Boston & Providence, Boston & Maine, Old Colony, Fitchburg (2), Norwich & Worcester (freight), Eastern, Providence & Worcester (freight), Worcester Viaduct Company (freight), New London Northern (2), New Haven & Northampton, Lowell & Mystic Branch.	
Number of railroad crossings under other railroads (specifying each),	2
Central Massachusetts (Lowell System).	

Description of Equipment.

	Number Owned.	Total Number.	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.	Number Equipped with Patent Coupler.
Locomotives:							
Passenger,	81	81	164,678	139,839	81	26	57
Freight,	129	129	186,000	156,000	31	85	–
Other,	30	30	114,000	99,000	–	29	–
Total,	240	240	–	–	112	140	57
Passenger cars,	214	214	62,350	48.220	214	–	214
Combination cars,	40	40	54,580	43,460	40	–	40
Baggage, mail and express cars,	53	53	57,270	41.950	53	–	53
Parlor cars,	8	8	81,020	68,788	8	–	8
Dining cars,	1	1	67,934	67.934	1	–	1
Sleeping cars,	6	6	86,000	76,167	6	–	6
Director's and pay cars,	4	4	70,150	46,833	4	–	4
Total,	326	326	–	–	326	–	326
Box freight cars (basis of 8 wheels),	4,045	4,045	20,100	19,700	–	–	247
Stock freight cars (basis of 8 wheels),	157	157	27,975	27,975	6	–	108
Coal freight cars (basis of 8 wheels),	1,131	1,131	27,000	18,000	–	–	210
Flat freight cars (basis of 8 wheels),	682	682	20,570	17,890	–	–	126
Other freight cars (basis of 8 wheels),	87	87	–	–	–	–	16
Coal freight cars (basis of 4 wheels),	251	251	10,000	10,000	–	–	141
Total,	6,353	6,353	–	–	6	–	848
Cars in company's service:							
Gravel cars,	236	236	16,530	9,800	30	–	97
Derrick cars,	15	15	–	–	9	–	1
Caboose cars (4 wheels),	76	76	14,000	14,000	–	–	13
Caboose cars (8 wheels),	8	8	25,600	25,600	–	–	–
Other road cars,	28	28	–	–	–	–	–
Total,	363	363	–	–	39	–	111

Number of cars in passenger equipment with 8 wheels fitted with brakes for all wheels, ... 326

---

* In Massachusetts on miles road owned.

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL (IN MASSACHUSETTS).		FROM THEIR OWN MISCONDUCT OR CARELESSNESS (IN MASSACHUSETTS).		TOTAL IN MASSACHUSETTS.		TOTAL ON WHOLE ROAD OPERATED.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, .	–	–	–	4	–	4	–	4
Employees, .	–	16	6	68	6	76	6	84
Others, . .	–	–	23	28	23	23	23	28

REPORT OF ACCIDENTS ON THE BOSTON & ALBANY RAILROAD IN THE STATE OF MASSACHUSETTS FOR THE YEAR, JUNE 30, 1889, TO JUNE 30, 1890.

July 1, 1890. — J. O'Brien, freight conductor, had finger injured while coupling cars at East Boston.

July 6. — M. Sullivan, freight brakeman, while pulling pin in Worcester yard, was caught between the cars, and hip and knee bruised.

July 9. — John Courtney, freight brakeman, caught his right hand and bruised it, while pulling pin in West Springfield yard.

July 10. — Patrick Coon, a blacksmith, attempted to cross the tracks at Grafton Street, Worcester, while the gates were down, and was struck by the cars and slightly cut on the head. He was intoxicated

July 12. — William Akers, freight brakeman, fell between the cars while train was switching at West Brookfield, and was run over and killed.

July 12. — William Progin, freight brakeman, while coupling cars at South Worcester, had thumb and two fingers bruised.

July 12. — Phillip Dube, freight brakeman, caught hold of a side ladder on moving freight train, and was hit by a switch-frame and right arm bruised. Place of accident, South Framingham.

July 13. — Patrick Coyne, Binghampton, N. Y., was struck by passenger train No. 10, while walking on the track about a mile east of Middlefield, and killed.

July 15 — L. O. Shedd, passenger brakeman, when coupling engine to passenger car, caught his hand between head of pin and "dolly varden" on engine, and bruised it. Place of accident, Athol.

July 22. — John McCarthy was found sitting on signal boxes east of Albany Street, Boston, with his head bruised and arm cut. He had been struck by an engine while walking on the track. He was intoxicated.

July 23. — William Hurley, freight brakeman, fell between the cars as switch train was putting cars to N. Y., N. H. & H. R R., at Springfield, and had his left arm run over.

July 29. — Peter Daly, freight conductor, was about to climb up side ladder of car after pulling pin, when engine started and threw him to the ground. He was dragged a short distance, injuring his side and stomach. Place of accident, Worcester.

July 29. — Unknown man, while walking on the track one and one-half miles east of Fairfield, was struck by passenger train No. 6, and killed.

July 31. — Michael McDonald of East Brookfield was lying on the track one mile east of West Brookfield, when he was run over by passenger train No. 60, and instantly killed.

August 1. — John Boardman, while intoxicated, lay down to sleep under platform of Freight House No. 2 at Boston, and switch engine, while putting cars into the house, ran over his foot, which was lying across the rail.

August 1. — Daniel McKinnon of East Boston left train at West Newton and started to walk up the track to Highland Street, and was struck by train No. 75, and killed. He was warned to keep off the track.

August 8. — Mrs. Betsy A. Wilkinson of Wilkinsonville, Mass., passenger on train No. 6, fell off the car platform when train was between South Worcester and Plymouth Street. Her arm was broken and shoulder injured.

August 13. — P. O'Brien, East Boston, Mass., climbed between the cars of a freight train standing at Summer Street crossing, East Boston, and, when he jumped down, fell and broke his leg.

August 19. — James Krtill, a Bohemian, jumped from passenger train No. 19 while it was running at a speed of thirty miles per hour, between West Springfield and Westfield, and had his collar bone broken. He was intoxicated.

August 20. — George Wheeler, assistant section foreman, jumped off engine No. 247 while it was passing Cambridge Street crossing, Allston, and was struck by train passing on other track. He lived but a few minutes.

August 21. — Edward Chapman, while crossing the tracks at Natick, was struck by engine of passenger train No. 110, and killed.

August 21. — C. H. Peterson, freight brakeman, had his hand badly bruised while coupling cars at North Wilbraham.

August 21. — W. S. Baxter, freight brakeman, fell from ladder while switching cars at Milford, and had one foot run over.

August 23. — Henry Dickinson, Springfield, Mass., had his arm run over by a switch engine, while he was sitting between the tracks with his hand across the rail. He was intoxicated.

August 23. — John White, freight brakeman, had his hand caught while coupling engine to car at Brighton. One finger was cut off and two fingers broken.

September 3. — John Sanders, freight conductor, had his arm caught between the draw-bars while coupling, and bruised. Place of accident, West Springfield yard.

September 4. — Thomas McHugh, Worcester, Mass., was struck by train No. 1, in Worcester yard, and killed. He was walking on the track, and, in trying to avoid one train, he stepped in front of the other.

September 9. — Tim Carney tried to jump on front end of engine at Westfield, and fell with his arm across the rail. It was run over at the wrist and cut off.

September 11. — Daniel McGrath, Granville, N. Y., was found lying on the track at the west end of Connecticut River bridge, with his left leg, arm and thigh crushed. He was intoxicated, and was probably run over while attempting to steal a ride. He died from his injuries.

September 11. — James Thompson, freight brakeman, was knocked down by steps of passenger coach, while throwing a switch, at Boston. Head and shoulder injured.

September 16. — William McPherson, freight brakeman, had end of thumb taken off while coupling engine to car at East Boston.

September 16 — Mathew O'Connell was found dead on the track between Brookfield and East Brookfield. The body was badly mangled.

September 19. — Jas. Noonan, freight conductor, while pulling pin between cars, had end of thumb caught and bruised. Place of accident, Springfield.

September 26. — Fred Myett of Adams, Mass., while intoxicated, was hanging onto side of freight train pulling out of Adams station, and was struck by cattle guard and thrown under the train. Arm run over, leg crushed and head bruised.

September 30. — Charles E. Harding of Boston, while intoxicated, fell off a passenger train in Boston yard, and had his head cut.

October 1. — Felix Kernan of Taunton, Mass., while stealing a ride on a freight train, standing on the bunters, fell off and had his leg run over. Place of accident, one mile west of West Springfield.

October 1. — Thos. Finnegan, freight brakeman, was thrown off the engine, and his arm broken, while making a switch at Cambridgeport.

October 3. — W. A. Carr, freight brakeman, when coupling engine to train, had fingers caught and end of third and fourth torn off and thumb bruised. Place of accident, West Springfield yard.

October 4. — Henry Dixon of Richmond, Mass., was run over and killed while lying on the crossing west of station. His horse ran away and threw him out on the crossing, and he was either insensible or dead when run over.

October 4. — Team containing three young men was struck by train No. 6, while going over crossing at West Brookfield. One of the occupants, named Germain, was slightly injured. Team demolished.

October 6. — —— Hickey, a tramp, was found under caboose as train was passing Charlton station, with one leg run over below the knee and the other broken in two places. He refused to state how he was hurt.

October 12. — Joseph Riley drove onto crossing at Plymouth Street, Worcester, and was struck by freight engine No. 153. Wagon was destroyed, and Riley's arm crushed. Bell was ringing and whistle sounded for crossing. Accident happened before gateman had come to work.

October 12. — Thomas Quirk, section man, was struck by passenger train No 32 near Tower 22 at South Framingham, and fatally injured. He had been filling lamps at Parks Corner, and was returning when struck.

October 15. — Jas. McFee, freight brakeman, while climbing between cars, was caught between the bunters and his feet jammed. Place of accident, Cottage Farm.

October 16. — W. A. Olsey, freight brakeman, was on car that went off the track while switching at North Wilbraham. and Olsey jumped off and sprained his ankle.

October 18. — D. S. Newton, freight brakeman, was thrown off cars by sudden stopping of train, and his scalp cut. Place of accident, Wellesley Hills.

October 22. — Engine with nine freight cars was going in on No. 1 track in Springfield freight yard, when the engine took the point of the switch and left the track, turning partly over. Trainmen were thrown off and injured as follows: conductor, Jas. Noonan, side hurt; engineer, H. Goodwin, side bruised; fireman, P. Connell, leg and back bruised; brakeman, C. S. Knight, chest injured.

October 25. — G. L. Young, freight brakeman, had thumb bruised while coupling engine to milk car at Warren.

October 27. — Fred E. Pomeroy, freight brakeman, was pulling pin between engine and head car, when engineer started suddenly and threw him off. The wheels passed over his right leg, and crushed it. Place of accident, Hinsdale.

October 28. — Joseph Conway, freight brakeman, when pulling pin at freight house, Springfield, had thumb and finger caught and bruised.

October 31. — Chas. McCarthy, freight brakeman, was getting down on side ladder, when he was struck by distant signal post and thrown to the ground, injuring his back and hips. Place of accident, North Adams Junction.

November 4. — David Miller, freight brakeman, was stepping from one car to another when train separated, and he fell to the ground. His right leg and arm were broken, wrist fractured and face cut. Cause of separation was a crooked pin in Ames bunter.

November 6. — Frank Buso, freight brakeman, fell from ladder in climbing down, and broke his ankle. Place of accident, Worcester yard.

November 8. — Thomas Granfield, coal shoveller, on his way to work, was crossing the Connecticut River bridge, when he was run over by switch train and killed. He crossed from one track, and evidently did not see the switcher.

November 15 — Arthur McCray, freight brakeman, was run over and killed by freight train at Westborough. Train separated without his knowledge, and he probably walked off the end of the section.

November 16. — Edward Doran drove into side of freight train at South Framingham, and had his wagon damaged and his head cut.

November 18. — J. W. Bradley was struck by train No. 18 at Grand Street, Worcester, and killed. He was walking on the track. Engineer did not see him.

November 19. — Frank Sheridan, freight brakeman, while climbing from a flat car onto a box car, fell from the ladder and had end of his finger run over, knee bruised and ankle sprained. Place of accident, Washington.

November 19. — Jas. McIntosh, freight brakeman, was struck by bridge at Wellesley, and knocked down. He was found lying on the corner of the car, with his skull fractured.

November 21. — J. E. Lee, Wagner car porter, fell from train No. 18, near Ashland station, and was badly bruised. He was feeling dizzy, and went to the car door to get fresh air, and fell off.

November 22. — Timothy Hallahan, freight brakeman, went in to make a coupling between two dump cars at East Boston, and one of the dumps struck him in the shoulder and threw him against the other. He was badly injured, his head being fractured.

November 23. — Unknown man was found dead on the track east of Union station, Worcester. He was last seen walking on the track before train No. 39 passed, and it is supposed he was struck by that train.

November 27. — A. L. Cormier, freight brakeman, jumped from front end of engine and struck on a sleeper, bruising his head and shoulder. Place of accident, Worcester.

November 29. — J. Morash, yard conductor, had his hand badly crushed while pulling pin. Place of accident, Boston.

December 9. — F. Pressy, freight brakeman, while climbing down ladder, fell and sprained his ankle. Place of accident, Rochdale.

December 13. — Joseph Nee, section man, was struck by engine in Boston yard, and knocked down. Hand slightly injured.

December 18. — F. W. Morse, freight brakeman, had two fingers and thumb bruised while coupling cars at King's brick yard, East Brookfield.

December 24. — Daniel Dewtell, gravel-train brakeman, was struck by train No. 40 near Rice's Crossing, and had leg broken and was otherwise injured.

December 26. — W. Nobles, freight brakeman, fell from train at South Worcester, and cut his head.

December 28 — Harry King, freight brakeman, stepped on brake beam to pull the pin, and his foot went under the wheels and was badly crushed. Place of accident, Back Bay, Boston.

January 3, 1890. — W. H. Nuttall, freight brakeman, had foot run over while coupling cars at Plymouth Street crossing, Worcester. He went in to couple, and car wheel projected beyond end of the car and ran over his foot at the instep.

January 9. — Jas. Breen, freight brakeman, when coupling cars, caught his fingers between the draw-bars. One finger was amputated. Place of accident, North Wilbraham.

January 11. — Lewis Destilmon, 7 Florence Street, Boston, attempted to cross between cars standing on South Street crossing, and got his foot caught between the bunters and jammed.

January 12. — Simon Rubinwitz, a Jew peddler with a team, while driving over crossing one and one-quarter miles west of Pittsfield, was struck by passenger train No. 6. The man was instantly killed and the team destroyed. The horse balked on the crossing.

January 13. — Geo. Carr, freight brakeman, was struck on the head by bridge at Middlefield, receiving a scalp wound. Was letting off brake and did not pay attention to tell-tale.

January 14. — Jas. Venner was run over and killed by freight train two miles east of West Brimfield. He was attempting to catch on side of train.

January 15. — Henry McGuck, while walking on the track west of Auburndale station, was struck by passenger train No. 75, and instantly killed.

January 16. — G. L. Young, freight brakeman, stood on the dead-woods pulling pin between cars, when they came together and caught him. His knee and hip were badly bruised. Place of accident, Worcester.

January 16. — Ellen Doyle, while walking on the track north of Gilbertville station, was struck by passenger train, and cut about the head.

January 20. — Geo. Fortune, freight brakeman, was getting down side ladder on car, and was struck by ball house at east end of Connecticut River bridge, Springfield. Side injured.

January 24. — Arthur Curry, freight brakeman, was run over while attempting to board train at South Framingham, and died soon after.

January 25. — W. P. Rugg, freight brakeman, was slightly injured in a collision between a freight and gravel train at Wellesley.

January 26. — Thomas Bates, North Wilbraham, was lying across south rail of south main track just west of Palmer station, and was struck by train No. 60 and thrown into the ditch. He was severely injured. Whistle blown. He was intoxicated.

January 27. — W. B. Smith, freight brakeman, was thrown to the ground while setting brake on M. D. T. car No. 8876, at Washington. Back and arm injured.

January 29. — J. E. McDonald, freight brakeman, bruised his arm at the elbow while coupling cars at Worcester.

January 29. — Unknown man was run over by switch engine in Boston yard, and both legs cut off. He died in fifteen minutes.

February 1. — Jas. Donohue attempted to cross the tracks at Green Street crossing, Worcester, while trains were passing, and ran into side of freight engine. He was struck by parallel rods, and killed.

February 7. — C. E. Myers, freight brakeman, received scalp wound by being struck by Parker Street bridge at Back Bay, Boston.

February 11. — Thomas Barker of Raymond, Iowa, travelling with a car of horses, was crossing the tracks in West Springfield yard, and was struck by an engine and cut on the head, side and leg.

February 17. — John Hurley, freight conductor, when coupling cars at Indian Orchard, caught his finger and bruised it.

February 20. — J. McDonald, freight brakeman, slipped from the top of an icy car at East Brookfield, and injured his leg.

February 24. — Chas. LeClair, freight brakeman, slipped while jumping on front end of engine, and sprained his ankle.

February 26. — Fergus Fahey, freight brakeman, fell between the cars while switching at North Adams Junction, and was run over and killed.

February 28. — Frank Gibson, a tramp, attempted to board a moving freight train in West Springfield freight yard, and fell under the cars and was killed.

February 28. — John Powers, freight brakeman, had thumb broken while coupling cars at Hinsdale.

March 5. — John F. Hoar, freight brakeman, had hand crushed while coupling cars at South Framingham. Three fingers and thumb were amputated.

March 11. — N. Tyler, freight brakeman, was stepping from one car to another, going up Springfield grade, when they separated and he fell to the ground. Leg and side were injured.

March 11. — James Downs, Worcester, Mass., jumped from train No. 11, while intoxicated, about six hundred feet east of Worcester station. His head was cut and arm bruised.

March 13. — Geo. Gamarash, twelve years old, while attempting to board a moving freight train at Ludlow, fell under the wheels and was killed.

March 17. — John Mathews, Newton Highlands, while intoxicated, was lying between the rails of the outward track just east of Cypress Street, Boston, and was struck by engine of train No. 209, and his left foot run over and crushed.

March 18. — C. L. Richardson, freight brakeman, had fingers of left hand bruised while coupling cars in Worcester yard.

March 18. — Gregory Burns of Newton, Mass , was struck by gravel train while crossing the tracks east of Washington Street, Newton, and his right leg cut off below the knee.

March 24. — Engine and tender of passenger train No. 454, on Ware River branch, left the track at switch, two miles north of Williamsville station. Engineer G. W. Adams and fireman H. M. Rogers were slightly injured.

March 26. — John Sullivan, freight brakeman, was getting off car in West Springfield yard, when he fell to the ground. He struck on his head and was badly cut.

March 28. — Unknown man, while walking on the track half a mile west of Wellesley, was struck by train No. 10, and his head and back badly injured.

March 28. — T. H. Keefe was struck by train No. 42, and instantly killed, while walking on the track at Webster Junction. He was trying to get on a passing freight train, when struck.

April 3. — Geo. Geegan of Dalton, Mass., attempted to board a moving freight train at Dalton, and fell under the wheels. Right foot run over, crushing the toes.

April 12. — William Foyle, freight brakeman, while switching his train at North Adams Junction, was engaged in coupling cars to the caboose, when he was run down and seriously injured. Arm and leg were crushed.

April 21. — David Doran, car inspector, went under a car to repair it, without taking proper precautions to protect himself, and other cars were thrown on that track, striking the one he was under. It backed up and ran over Doran, and killed him.

April 22. — John J Shea of Salem, Mass., stealing a ride on a freight train, fell from the bunters at West Brookfield, and had his left foot run over. Toes were amputated.

April 22. — L. Estey, freight brakeman, had two fingers broken while coupling cars at Cottage Farm.

April 29. — Henry O. Kiblin, a carpenter, jumped from New York express train in Springfield depot, and fell under the wheels. Left foot run over and crushed.

May 1. — Phillip Collum, freight brakeman, in coupling cars, was caught between the dead-woods and right arm bruised. Place of accident, Cottage Farm.

May 8. — J. E. Potter, freight brakeman, was stepping from one car to another, when train parted and he fell, striking on a tie and spraining his ankle.

May 9. — Lewis D. McCray, fireman, when stepping off his engine in West Springfield yard, his foot struck a switch stand and went under the wheels. Wheels ran over his leg and crushed it.

May 10. — A. Forbeare, freight brakeman, was caught between the bunters while coupling, and injured about the hips. Place of accident, Springfield freight yard.

May 10. — Unknown man walking on the track west of Newtonville, was struck by train No. 5, and killed. Bell rung and whistle sounded.

May 16. — F. Mack, freight brakeman, was thrown off a car at Back Bay, Boston, and his nose broken and his leg and arm badly bruised. He was standing on an empty car when it was struck by others, and he was thrown off.

May 28. — J. T. Forrester of Framingham stepped from train No. 29 at Milford before it had come to a stop, and fell on the station platform. Left wrist was cut and hip bruised.

May 29. — Chas. Hamilton, passenger brakeman, had thumb on left hand jammed, while coupling engine to passenger car at Newton Lower Falls.

May 30. — Patrick Quinn, Hinsdale, Mass., was found lying on the track half a mile west of Hinsdale station, with one leg run over and head bruised. He was taken to Hinsdale, where he died at twelve noon.

June 3. — Eddie Hunt, thirteen years old, was struck and killed by train No. 457 at Brown's Highway crossing, Ware River Railroad, near Winchendon station. He was walking on the track.

June 6. — Mrs. E. Gardner of Huntington, Mass., while walking on the track west of West Springfield, was struck by passenger train No. 19, and her left arm broken and shoulder injured.

June 8. — T. Graham, freight brakeman, when pulling pin, had hand caught and badly jammed. Place of accident, Cottage Farm.

June 8. — T. McCarthy, freight brakeman, caught his hand while coupling cars, and had one finger and palm of hand lacerated. Place of accident, Springfield.

June 17. — H. Murray, freight brakeman, split his knee cap while jumping on side of a moving freight car at Wellesley.

June 27. — P. Avery, freight brakeman, while coupling cars at North Adams Junction, caught his hand and had middle finger on right hand jammed.

June 28. — M. H. Thompson, freight brakeman, was putting link between cars, when they came together and caught his hand. Thumb and two fingers were jammed, Place of accident, Worcester.

NAME AND RESIDENCE OF OFFICERS.

William Bliss, *President*, Boston, Mass. James A. Rumrill, *Vice-President*, Springfield, Mass. Walter H. Barnes, *General Manager*, Boston, Mass. Samuel Hoar, *General Counsel*, Boston, Mass. Myron E. Barber, *Auditor*, Boston, Mass. Henry T. Gallup, *General Superintendent*, Springfield, Mass. Arthur Mills, *General Traffic Manager*, Boston, Mass. Henry B. Chapin, *General Freight Agent*, Boston, Mass. Hamilton Perkins, *Assistant General Freight Agent*, Boston, Mass. Arthur S. Hanson, *General Passenger Agent*, Boston, Mass. Charles E. Stevens, *Treasurer*, Boston, Mass. Frank H. Ratcliffe, *Assistant Treasurer*, Boston, Mass. James A. Rumrill, *Clerk of Corporation*, Springfield, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

William Bliss, Boston, Mass. Edward B. Hayden, Woburn, Mass. John Cummings, Woburn, Mass. Moses Kimball, Brookline, Mass. Edward L. Davis, Worcester, Mass. Jacob C. Rogers, Peabody, Mass. Chauncy M. Depew, New York, N. Y. James A. Rumrill, Springfield, Mass. Jarvis W. Dunham, Pittsfield, Mass. Charles S. Sargent, Brookline, Mass. Edward B. Gillette, Westfield, Mass. John P. Spaulding, Boston, Mass. Samuel Hoar, Concord, Mass.

PROPER ADDRESS OF THE COMPANY.

BOSTON & ALBANY RAILROAD COMPANY,
BOSTON AND SPRINGFIELD, MASS.

WILLIAM BLISS,
EDW. B. GILLETT,
JOHN CUMMINGS,
JACOB C. ROGERS,
SAML. HOAR,
JOHN P. SPAULDING,
EDWARD D. HAYDEN,
J. N. DUNHAM,
MOSES KIMBALL,
J. A. RUMRILL,
Directors.
C. E. STEVENS,
Treasurer.
WALTER H. BARNES,
General Manager.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Boston, Aug. 8, 1890. Then personally appeared William Bliss, Edw. B. Gillett, John Cummings, Jacob C. Rogers, Samuel Hoar, John P. Spaulding, Edward D. Hayden, J. N. Dunham, Moses Kimball, J. A. Rumrill, C. E. Stevens and W. H. Barnes, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

FRANK H. RATCLIFFE,
Justice of the Peace.

REPORT

OF THE

BOSTON & LOWELL RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Boston & Maine Railroad.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,	$800,721 60	
Miscellaneous income, less expense, accumulation to sinking fund,	2,196 73	
TOTAL INCOME,		$802,918 33
Salaries and maintenance of organization,	$7,000 00	
Interest on funded debt,	352,546 78	
Interest and discount on interest-bearing current liabilities,	54,116 82	
TOTAL,		413,663 60
NET INCOME,		389,254 73
Dividends declared (7 per cent.),		387,058 00
Surplus for year ending June 30, 1890,		2,196 73
Balance Profit and Loss Account June 30, 1889 (surplus),		660,695 19
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		662,891 92

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Bridging,	$25,149 14
Superstructure, including rails,	9,118 00
Lands, land damages, and fences,	39,135 50
Passenger and freight stations, wood-sheds and water-stations,	58,372 04
Engine-houses, car-sheds and turn-tables,	20,591 87
Woburn Branch extension,	60 00
Wharves and wharf property,	186,166 79
TOTAL FOR CONSTRUCTION,	$338,593 34
Passenger, mail and baggage cars,*	926 35
Freight and other cars,*	8,820 00
TOTAL FOR EQUIPMENT,	$9,746 35
Other expenditures charged to property account:	
Manchester & Keene Railroad investments,	8,000 00
TOTAL CHARGES TO PROPERTY ACCOUNTS,	356,339 69

---

* The number cannot be given, as these are payments on contracts prior to lease.

General Balance Sheet, June 30, 1890.

Dr.

Cost of road,	$6,963,267 76	
Cost of equipment,	833,583 94	
Stocks, bonds and investments,	2,511,330 50	
Wharves and wharf property,	1,440,203 25	
Investments in:		
Manchester & Keene Railroad,	345,749 70	
Bedford & Billerica Railroad,	53,232 58	
Woburn Branch extension,	290,297 24	
Double track, Middlesex Central Railroad,	80,497 90	
Improvement account, third track,	19,978 07	
TOTAL PERMANENT INVESTMENTS,		$12,528,140 94
Cash,	$305,694 39	
Bills receivable,	1,113,010 52	
Balances due from other companies,	661,053 20	
TOTAL CASH AND CURRENT ASSETS,		2,079,758 11
Other assets:		
Sinking fund,	$57,114 89	
Leased equipment Nashua & Lowell Railroad,	228,226 06	
TOTAL OTHER ASSETS,		285,340 95
TOTAL,		$14,893,240 00

Cr.

Capital stock,		$5,529,400 00
Funded debt,		7,331,400 00
Current liabilities:		
Loans and bills payable,	$790,000 00	
Dividends not called for,	193,847 50	
Mutual interest coupons unpaid (including coupons due July 1),	91,462 50	
Accrued interest on funded debt not yet payable,	55,703 09	
Improvement accounts,	10,308 93	
TOTAL CURRENT LIABILITIES,		1,141,322 02
Nashua & Lowell Railroad leased equipment,		228,226 06
Profit and Loss Balance,		662,891 92
TOTAL,		$14,893,240 00

CAPITAL STOCK.

Capital stock authorized by charter,	$5,529,400 00	
Capital stock authorized by votes of company,	5,529,400 00	
Capital stock issued (number of shares, 55,294); amount paid in,		$5,529,400 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		5,529,400 00
Total number of stockholders,	1,690	
Number of stockholders in Massachusetts,	1,467	
Amount of stock held in Massachusetts,	$4,981,500 00	

DEBT.

Funded debt, as follows:		
Bonds due 1892, rate of interest 7 per cent., ...		$999,500 00
Interest paid on same during year, . .	$69,965 00	
Bonds due 1895, rate of interest 7 per cent., ...		500,000 00
Interest paid on same during year, . .	$35,000 00	
Bonds due 1896, rate of interest 6 per cent., ...		750,000 00
Interest paid on same during year, . .	$45,000 00	
Bonds due 1899, rate of interest 5 per cent., ...		620,000 00
Interest paid on same during year, . .	$31,000 00	
Bonds due 1903, rate of interest 4½ per cent., ...		250,000 00
Interest paid on same during year, . .	$11,250 00	
Bonds due 1905, rate of interest 4 per cent., ...		500,000 00
Interest paid on same during year, . .	$20,000 00	
Bonds due 1906, rate of interest 4 per cent., ...		500,000 00
Interest paid on same during year, . .	$20,000 00	
Bonds due 1907, rate of interest 4 per cent., ...		2,000,000 00
Interest paid on same during year, . .	$80,000 00	
Bonds due 1907, rate of interest 4 per cent., ...		325,000 00
Interest paid on same during year, . .	$13,000 00	
Bonds of Salem & Lowell Railroad, rate of interest 6 per cent., ...		226,900 00
Interest paid on same during year, . .	$13,614 00	
Bonds of Lowell & Lawrence Railroad, rate of interest 6 per cent., ...		200,000 00
Interest paid on same during year, . .	$12,000 00	
Bonds of Nashua & Lowell Railroad, rate of interest 5 and 6 per cent., ...		300,000 00
Interest paid on same during year, . .	$17,000 00	
Bonds due 1909, rate of interest 4 per cent., ...		160,000 00
Interest paid on same during year, . .	$1,717 78	
TOTAL AMOUNT OF FUNDED DEBT, ...		$7,331,400 00

DESCRIPTION OF ROAD OWNED.

Main line of road from Boston to Lowell, ...	26.75	miles.
Main line of road in Massachusetts, ...	26 75	"
Double track on main line, ...	26.75	"
Same in Massachusetts, ...	26 75	"
Branches owned by company, viz.:		
Mystic (single track), ...	2 25	"
Lexington & Arlington (double track), ...	9.25	"
Woburn (double track), ...	6 20	"
Stoneham (single track), ...	2.50	"
Lawrence (single track), ...	3.21	"
Salem & Lowell (single track), ...	16.80	"
Lowell & Lawrence (single track), ...	12.42	"
Middlesex Central (single track), ...	11.08	"
Bedford & Billerica (single track), ...	7.63	"
Total length of branches owned by company, ...	71.34	"
Total length of branches owned by company in Massachusetts,	71.34	"
Double track on branches, ...	15.45	"
Same in Massachusetts, ...	15.45	"
Total road belonging to this company, ...	98.09	"
Sidings and other tracks not before enumerated, ...	71.90	"
Same in Massachusetts, ...	71.90	"
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	212 19	"
Same in Massachusetts, ...	212.19	"
Total length of tracks laid with steel rails, ...	120.50	"
[Weights per yard, 60 and 72 pounds.]		

General Information.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	101
Number of crossings of highways over railroad,	58
Number of crossings of highways under railroad,	8
Number of highway bridges 18 feet above track,	6
Number of highway bridges less than 18 feet above track,	52
Height of lowest bridge above the rail,	15 ft. 6 in.
Number of crossings at which gates or flagman are maintained,	73
Number of crossings at which electric signals are maintained,	23
Number of crossings at which there are neither signals nor flagman,	28
Number of railroad crossings at grade (specifying each),	5
Three on Mystic Branch, crossing the Eastern, Boston & Maine and Boston & Albany Railroads.	
Two on Salem & Lowell Branch crossing the Boston & Maine and Danvers Railroad.	
Number of railroad crossings over other railroads (specifying each),	1
Fitchburg Railroad.	
Number of railroad crossings under other railroads (specifying each),	2
Both under Lowell & Andover Railroad.	

Name and Residence of Officers.

F. L. Higginson, *President*, Boston, Mass. C. E. A. Bartlett, *Treasurer*, Chelmsford, Mass. C. E. Cram, *Clerk of Corporation*, Winchester, Mass.

Name and Residence of Directors last elected.

F. L. Higginson, Boston, Mass. W. Powell Mason, Boston, Mass. George A. Gardner, Boston, Mass. Edwin Morey, Boston, Mass. William A. Haskell, Boston, Mass. T. Jefferson Coolidge, Manchester, Mass. F. E. Clarke, Lawrence, Mass.

Proper Address of the Company.

BOSTON & LOWELL RAILROAD CORPORATION,

Office in Passenger Station, Causeway Street, Boston, Mass.

F. L. HIGGINSON,
T. JEFFERSON COOLIDGE,
EDWIN MOREY,
FREDERICK E. CLARKE,
Directors.
C. E. A. BARTLETT,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Oct. 1, 1890. Then personally appeared on the date above stated F. L. Higginson, T. Jefferson Coolidge, Edwin Morey and Frederick E. Clarke, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

C. E. A. BARTLETT,
Justice of the Peace.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Oct. 2, 1890. Then personally appeared C. E. A. Bartlett, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

ANDREW L. KNIGHT,
Justice of the Peace.

REPORT

OF THE

BOSTON & MAINE RAILROAD,

FOR THE YEAR ENDING JUNE 30, 1890.

INCOME ACCOUNT.

General Exhibit for the Year.

Gross earnings from operation,			$14,587,025 70	
Less operating expenses,			9,337,717 46	
Income from operation,				$5,249,308 24
Interest on bonds owned, viz.:			$17,955 27	
St. Johnsbury & Lake Champlain Railroad,		$13,280 83		
Portland Union Railway Station Company,		4,674 44		
Dividends on stock owned, viz.:			161,917 40	
Maine Central R.R. (18,115 shares),		$108,690 00		
Portland & Rochester Railroad (4,820 shares),		28,920 00		
Dover & Winnipiseogee Railroad (2,635 shares),		15,810 00		
York Harbor & Beach Railroad (3,000 shares),		4,500 00		
Portland & Ogdensburg Railroad ($3,952\frac{4}{10}$ shares),		3,952 40		
Eastern Railroad in New Hampshire (10 shares),		45 00		
Miscellaneous income, less expenses, viz.:			163,268 25	
Rents of tenements, lands, etc.,	$148,650 01			
Expenses,	37,434 29			
		$111,215 72		
Interest received,		28,555 30		
Bridge tolls,	$9,244 75			
Expenses,	1,280 00			
		7,964 75		
Lyndonville Water Works,		793 87		
Northern Parlor Car Co.,		3,586 66		
Interest on St. J. & L. C. R.R. bonds, owned by B. & L. R.R.,		7,450 00		
Dividend on Peterborough R.R. stock owned by L. & L. R.R.,		2,482 50		
Dividend on Mt. Washington Railway stock, owned by C. & P. R.R.,		952 00		
Sundry items,		267 45		
Rentals for tracks, yards and terminals,			15,854 67	
Income from other sources,				358,995 59
TOTAL INCOME,				5,608,303 83

Deductions from income: —				
Interest on funded debt accrued during year,			$426,985 21	
Interest and discount on interest-bearing current liabilities,			142,175 13	
Taxes,			611,638 50	
Rentals,			3,236,998 57	
Eastern R.R., 11 mos. to June 1,*		$1,185,606 52		
Boston & Lowell R.R.,		685,254 91		
Wor., Nash. & Roch. R.R.,		250,000 00		
Ct. & P'sic Rivers R.R.,		233,000 00		
Manch. & Lawrence R.R.,		102,000 00		
Central Mass. R.R.,		101,500 00		
Port., Sago & Ports'h R.R.,		90,300 00		
Nashua & Lowell R.R.,		73,000 00		
Lowell & Andover R.R.,		52,500 00		
Portsmouth & Dover R.R.,		46,140 00		
Ports., Gt. Falls & Conway R.R., 11 mos. to June 1,		41,512 50		
Peterborough R.R.,		35,699 64		
Massawippi Valley R'y,		35,000 00		
Dov. & Winnipiseogee R.R.,		29,000 00		
Eastern R.R. in N. H.,		22,500 00		
Stony Brook R.R.,		20,750 00		
Wilton R.R.,		16,950 00		
Newburyport City R.R.,		6,000 00		
W. Amesbury Branch R.R.,		5,700 00		
K'bunk & K'bunkport R.R.,		2,925 00		
Wolfborough R.R.,		2,240 00		
Northern R.R. (contract),		199,920 00		
		$3,237,498 57		
Newport & Richford R.R.,	$17,500 00			
Sub-let to Can. Pacific R'y for the sum of,	18,000 00			
Credit,		500 00		
		$3,236,998 57		
Rentals for tracks, yards and terminals,			23,890 00	
Total deductions from income,				$4,441,687 41
NET INCOME,				1,166,616 42
Dividends declared (9½ per cent. on common stock),†.				665,000 00
Surplus for year ending June 30, 1890,				501,616 42
Balance Profit and Loss Account June 30, 1889 (surplus),				1,521,857 17
TOTAL PROFIT AND LOSS ACCOUNT (SURPLUS),				2,023,473 59
Add Portsmouth, Gt. Falls & Conway R.R. Profit and Loss Account, said road having been purchased by Boston & Maine R.R.,				1,027 47
				$2,024,501 06
Deduct proportion of surplus earnings of the year ending Sept. 30, 1889, credited improvement account,				6,260 82
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),				$2,018,240 24

---

* Includes Eastern Railroad proportion of surplus earnings for the year ending Sept. 30, 1889, paid as rent, amounting to $436,000.

† On $7,000,000 Boston & Maine old stock.

Earnings from Operation.

Items.	Total Receipts.	Deductions Account of Repayments, etc.	Actual Earnings.
Passenger:			
Passenger revenue,	$7,220,923 11		
Less repayments:			
Tickets redeemed,	. . .	$14,985 61	
Excess fares refunded,	. . .	69,488 75	
Other repayments,	. . .	8,000 00	
Total deductions,	. . .	$92,474 36	
TOTAL PASSENGER REVENUE,	. . .	. . .	$7,128,448 75
Mail,	$204,168 45		
Express,	386,781 85		
Extra baggage and storage,	43,763 06		
Other items,	21,430 30		
			656,143 66
TOTAL PASSENGER EARNINGS,	. . .	. . .	$7,784,592 41
Freight:			
Freight revenue,	$6,870,640 02		
Less repayments:			
Overcharge to shippers,	. . .	$89,474 82	
Total deductions,	. . .	$89,474 82	
TOTAL FREIGHT REVENUE,	. . .	. . .	$6,781,165 20
Other items (Eastern transfer),	$7,419 86		7,419 86
TOTAL FREIGHT EARNINGS,	. . .	. . .	$6,788,585 06
TOTAL PASSENGER AND FREIGHT EARNINGS,	. . .	. . .	$14,573,177 47
Other earnings from operation:			
Telegraph companies,	$5,402 34		
Other sources:			
Coal-hoisting engines,	6,264 83		
Steamer "Mt. Washington,"	2,181 06		
TOTAL OTHER EARNINGS,	. . .	. . .	13,848 23
TOTAL GROSS EARNINGS FROM OPERATION,	. . .	. . .	$14,587,025 70

Operating Expenses.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures:			
Repairs of roadway,	$562,629 32	$375,086 22	$937,715 54
Renewals of rails,	67,666 08	45,110 72	112,776 80
Renewals of ties,	109,157 02	72,771 34	181,928 36
Repairs on bridges and culverts,	172,562 94	115,041 97	287,604 91
Repairs of fences, road-crossings, signs and cattle guards,	53,131 34	35,420 89	88,552 23
Repairs of buildings,	180,659 13	120,439 42	301,098 55
Repairs of docks and wharves,	–	8,317 99	8,317 99
Repairs of telegraph,	4,318 72	2,879 14	7,197 86
Other expenses,	338 15	225 44	563 59
TOTAL,	$1,150,462 70	$775,293 13	$1,925,755 83
Maintenance of equipment:			
Repairs and renewals of locomotives,	$357,843 69	$238,562 46	$596,406 15
Repairs and renewals of passenger cars,	452,786 14	–	452,786 14
Repairs and renewals of freight cars,	–	474,134 14	474,134 14
Shop machinery, tools, etc.,	42,093 97	28,062 65	70,156 62
Other expenses,	112 92	75 28	188 20
TOTAL,	$852,836 72	$740,834 53	$1,593,671 25

---

* The items in these columns which are not directly chargeable to either passenger or freight business are to be apportioned between the two on the basis of train mileage as prescribed by the Interstate Commerce Commission. The result, therefore, is not accurate, but only approximate, and this fact must be borne in mind in drawing conclusions therefrom.

OPERATING EXPENSES — Concluded.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Conducting transportation:			
Wages of enginemen, firemen and roundhouse-men,	$429,856 41	$359,786 49	$789,642 90
Fuel for locomotives,	589,243 99	539,539 54	1,128,783 53
Water supply for locomotives,	34,076 58	22,717 72	56,794 30
All other supplies for locomotives,	30,520 24	20,346 83	50,867 07
Wages of other trainmen,	358,914 52	330,733 02	689,647 54
All other train supplies,	59,616 76	22,148 71	81,765 47
Wages of switchmen, flagmen and watchmen,	276,822 27	184,548 16	461,370 43
Expense of telegraph, including train despatchers and operators,	63,436 51	42,291 02	105,727 53
Wages of station agents, clerks and laborers,	476,645 62	714,861 96	1,191,507 58
Station supplies,	117,975 19	28,575 05	146,550 24
Car mileage, balances,	20,846 74	206,708 10	227,554 84
Loss and damage,	10,513 36	37,441 68	47,955 04
Injuries to persons,	177,416 33	30,952 26	208,368 59
Barges, floats, tugs, ferry-boats, expenses of, including wages, fuel and supplies,	–	3,780 82	3,780 82
Other expenses,	4,094 22	22,090 06	27,054 28
TOTAL,	$2,649,978 74	$2,567,391 42	$5,217,370 16
General expenses:			
Salaries of officers,	$42,614 75	$32,409 84	$75,024 59
Salaries of clerks,	64,143 88	62,582 06	126,725 94
General office expenses and supplies,	10,782 87	8,684 43	19,467 30
Advertising and outside agencies,	48,076 55	2,703 88	50,780 43
Insurance,	23,206 05	15,470 70	38,676 75
Expense of fast freight lines,	–	3,875 80	3,875 80
Rentals not otherwise provided for,	7,397 50	5,750 00	13,147 50
Legal expenses,	48,410 05	32,273 37	80,683 42
Stationery and printing,	58,188 96	41,269 57	99,458 53
Other general expenses,	57,313 06	35,766 90	93,079 96
TOTAL,	$360,133 67	$240,786 55	$600,920 22
Recapitulation of expenses:			
Maintenance of way and structures,	$1,150,462 70	$775,293 13	$1,925,755 83
Maintenance of equipment,	852,836 72	740,834 53	1,593,671 25
Conducting transportation,	2,649,978 74	2,567,391 42	5,217,370 16
General expenses,	360,133 67	240,786 55	600,920 22
GRAND TOTAL,	$5,013,411 83	$4,324,305 63	$9,337,717 46
Percentage of operating expenses to earnings,	–	–	64.01

* See note on page 29.

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

	Cost of Construction, Investments, etc., of Eastern & Portsmouth, Great Falls & Conway Railroads purchased.	Transferred from Improvement Account of Boston & Maine and Eastern Railroads, being amount expended from Oct. 1, 1883, to June 1, 1890.	Total.
Grading and masonry,	$2,652,100 52	$197,729 66	$2,849,830 18
Bridging,	1,743,613 61	540,099 77	2,283,713 38
Superstructure, including rails,	3,734,186 65	246,504 94	3,980,691 59
Lands, land damages and fences,	4,813,487 71	257,210 55	5,070,698 26
Passenger and freight stations, wood-sheds and water stations,	2,028,939 21	298,373 05	2,327,312 26
Engine-houses, car-sheds and turn-tables,	327,347 95	96,223 36	423,571 31
Machine shops,	360,374 52	33,123 34	393,497 86
Engineering, agencies, salaries and other expenses during construction,	924,780 09	1,322 10	926,102 19
TOTAL FOR CONSTRUCTION,	$16,584,830 26	$1,670,586 77	$18,255,417 03

Property Accounts: Charges and Credits during the Year — Concluded.

		Cost of Construction, Investments, etc., of Eastern & Portsmouth, Great Falls & Conway Railroads purchased.	Transferred from Improvement Account of Boston & Maine and Eastern Railroads, being amount expended from Oct. 1, 1883, to June 1, 1890.	Total.
Locomotives (number 140),		$455,600 00	$442,565 06	$898,165 06
Harbor float (number 1),*		-	5,000 00	5,000 00
Passenger, mail and baggage cars (number 312),		591,503 49	486,945 05	1,078,448 54
Freight and other cars (number 3,142),		454,250 00	621,884 03	1,076,134 03
Snow plows (number 18),		9,600 00	2,166 31	11,766 31
TOTAL FOR EQUIPMENT,		$1,510,953 49	$1,558,560 45	$3,069,513 94
Other expenditures charged to property account:				
Maine Central Railroad stock,		$1,811,500 00	-	-
Portsmouth, Great Falls & Conway R.R. stock,		551,300 00	-	-
Wolfborough Railroad stock,		343,400 00	-	-
Portland & Rochester Railroad stock,		182,050 00	-	-
Chelsea Beach Railroad stock,		38,300 00	-	-
Port., Mt. Desert & Machias Steamboat Co. st'k,		15,000 00	-	-
Eastern Railroad in New Hampshire stock,		900 00	-	-
Bar Harbor property,		34,540 80	$10,563 57	-
Lands in Manchester, Mass.,		3,650 00	-	-
Lands in Revere,		23,400 00	-	-
Lands in East Boston,		20,625 00	-	
Lands in Lawrence,		30,000 00	-	-
Lands in Malden,		2,301 44	-	-
St. John Bridge & Rail'y Extension Co. stock,		-	684 00	-
York Harbor & Beach R.R. stock,	$248,550 00	-	-	-
Port. Union Railway Station Co. bonds,		-	25,000 00	-
St. Johnsb'y & L. Cham. R.R. b,ds,	430,800 00	-	-	-
St. Johnsb'y & L. Cham. R.R. st'k,	3,283 56	-	-	-
Eastern Railroad bonds,	81,000 00	-	-	-
Franklin & Tilton Railroad stock,	33,750 00	-	-	-
Newburyport Railroad bonds,	12 00	-	-	-
Land in Waltham,	15,856 12	-	-	-
	$813,251 68	$3,056,967 24	$36,247 57	$3,906,466 49
TOTAL CHARGES TO PROPERTY ACCOUNTS,		-	-	$25,231,397 46
Reduction in property account:				
Port. Union R'y Stat. Co. b'ds sold,	$58,000 00			
Total credits to property accounts,		-	-	58,000 00
NET ADDITION TO PROPERTY ACCOUNT FOR THE YEAR,		-	-	$25,173,397 46

---

* Boston & Maine Railroad proportion, or one-half, owned jointly with New York & New England Railroad.

General Balance Sheet June 30, 1890.

Dr.

Cost of road,		$27,876,354 66
Cost of equipment,		4,377,693 94
Bonds of St. Johnsbury & Lake Champlain Railroad,	$483,300 00	
Bonds of Newburyport Railroad,	302,511 95	
Bonds of Danvers Railroad,	125,000 00	
Bonds of Eastern Railroad,	81,000 00	
Bonds of Portland Union Railway Station Co.,	50,000 00	
		1,041,811 95
Stock of Maine Central Railroad,	$1,811,500 00	
Stock of Portsmouth, Gt. Falls & Conway Railroad,	551,300 00	

Stock of Portland & Rochester Railroad,	$482,050 90	
Stock of Wolfborough Railroad,	343,400 00	
Stock of Dover & Winnipiseogee Railroad,	263,144 48	
Stock of York Harbor & Beach Railroad,	248.550 00	
Stock of Portland & Ogdensburg Railroad,	146,238 80	
Stock of Orchard Beach Railroad,	49,624 89	
Stock of Chelsea Beach Railroad,	38,300 00	
Stock of Franklin & Tilton Railroad,	33,750 00	
Stock of Danvers Railroad,	27,445 00	
Stock of Portland Union Railway Station Co.,	25,000 00	
Stock of Portland, Mt. Desert & Machias Station Company,	15,000 00	
Stock of St. Johnsbury & Lake Champlain Railroad,	4,283 56	
Stock of Eastern Railroad in New Hampshire,	900 00	
Stock of St John Bridge & Railway Extension Company,	684 00	
		$4,041,170 73
Bar Harbor property,	$45,104 37	
Lands in Lawrence,	30,000 00	
Lands in Revere,	23,400 00	
Lands in East Boston,	20,625 00	
Lands in Portland,	16,467 50	
Lands in Waltham,	15,856 12	
Lands in Saco,	15,000 00	
Lands in Dover and Old Orchard,	14,132 21	
Lands in Somerville,	5,850 00	
Lands in Wakefield,	13,450 00	
Lands in Manchester, Mass.,	3,650 00	
Lands in Malden,	2,301 44	
		205,836 64
Steamer " Mt. Washington " and wharves,		69,260 24
TOTAL PERMANENT INVESTMENTS,		$37,612,128 16
Cash,	$514,222 34	
Bills receivable,	226,963 73	
Due from agents,	436,064 04	
Due from solvent companies and individuals,	1,827,582 35	
TOTAL CASH AND CURRENT ASSETS,		3,004,832 46
Other assets:		
Materials and supplies,	$1,360,459 07	
Trustees of Boston & Maine Railroad sinking fund,	221,975 48	
Trustees of Eastern Railroad sinking fund,	101,281 40	
Sundries,	562,317 01	
TOTAL OTHER ASSETS,		2,246,032 96
TOTAL,		$42,862,993 58

CR.

Capital stock:				
Common,	Boston & Maine,	$10,180,600 00		
	Eastern,	2,185,262 96		
	P. G. F. & C.,	639,507 12		
	B. & M. scrip,	142,529 92		
			$13,147,900 00	
Preferred,	Boston & Maine,	$1,036,600 00		
	Eastern,	2,113,100 00		
	Eastern scrip,	143 80		
			3,149,843 80	
TOTAL CAPITAL STOCK,				$16,297,743 80
Funded debt,				17,393,920 31

Current liabilities:			
Loans and bills payable,	$3,005,000 00		
Land mortgage notes,	594,800 00		
		$3,599,800 00	
Audited vouchers and accounts,		616,002 78	
Wages and salaries,		172,800 67	
Net traffic balances due to other companies,		215,178 80	
Dividends not called for,		31,094 25	
Matured interest coupons unpaid (including coupons due July 1),		144,131 37	
Rentals due July 1,		3,350 00	
TOTAL CURRENT LIABILITIES,			$4,782,357 87
Accrued rentals not yet due,		$148,461 11	
Accrued interest not yet due,		279,005 57	
Accrued taxes not yet due,		303,172 76	
Sundry lease accounts,		259,289 69	
			989,929 13
Suspense account,			1,157,545 35
Profit and Loss balance,		$2,018,240 24	
Sinking fund for redemption of Boston & Maine Railroad bonds,		221,975 48	
Sinking fund for redemption of Eastern Railroad bonds,		1,281 40	
			2,341,497 12
TOTAL,			$42,862,993 58

Current Liabilities and Assets.

CURRENT LIABILITIES ACCRUED UP TO AND INCLUDING JUNE 30, 1890.

Loans and bills payable,	$3,599,800 00
Audited vouchers and accounts,	616,002 78
Wages and salaries,	172,800 67
Net traffic balances due to other companies,	215,178 80
Dividends not called for,	31,094 25
Matured interest coupons unpaid (including coupons due July 1),	144,131 37
Rentals due July 1,	3,350 00
TOTAL,	$4,782,357 87
Materials and supplies on hand (see Balance Sheet),	$1,360,459 07

CASH AND CURRENT ASSETS AVAILABLE FOR PAYMENT OF CURRENT LIABILITIES.

Cash,	$514,222 34
Bills receivable,	226,963 73
Due from agents,	436,064 04
Due from solvent companies and individuals,	1,827,582 35
Balance net current liabilities,	1,777,525 41
TOTAL,	$4,782,357 87

CAPITAL STOCK.

Capital stock authorized by charter and additional legislation in Massachusetts,	$21,297,743 80	
Capital stock authorized by votes of company,	16,297,743 80	
Capital stock issued (number of shares: common, 101,806; preferred, 10,366); amount paid in,	Common,	$10,180,600 00
	Preferred,	1,036,600 00
Capital stock paid in on shares not issued (Boston & Maine Railroad scrip convertible into stock at par),		142,529 92
Total amount paid in on Eastern and Portsmouth, Gt. Falls & Conway stock to be exchanged for Boston & Maine stock,		4,938,013 88
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		16,297,743 80
Total number of stockholders:		
Boston & Maine common,	3,902	
Boston & Maine preferred,	114	
Eastern common,	1,098	
Eastern preferred,	428	
Portsmouth, Gt. Falls & Conway common,	350	
	5,892	
Number of stockholders in Massachusetts:		
Boston & Maine common,	2,363	
Boston & Maine preferred,	104	
Eastern common,	702	
Eastern preferred,	352	
	3,521	
Amount of stock held in Massachusetts:		
Boston & Maine common,	$7,113,800 00	
Boston & Maine preferred,	991,600 00	
Eastern common,*	2,623,600 00	
Eastern preferred,	2,113,100 00	
Portsmouth, Gt. Falls & Conway common,*	682,900 00	
	$13,525,000 00	

DEBT.

Funded debt, as follows:		
Bonds due Jan. 1, 1893, rate of interest 7 per cent.,		$1,500,000 00
Interest paid on same during year,	$108,027 50	
Bonds due Jan. 1, 1894, rate of interest 7 per cent.,		2,000,000 00
Interest paid on same during year,	$138,285 00	
Improvement bonds due Feb. 2, 1905, rate of interest 4 per cent.,		1,000,000 00
Interest paid on same during year,	$36,000 00	
Improvement bonds due Feb. 1, 1907, rate of interest 4 per cent.,		500,000 00
Interest paid on same during year,	$20,000 00	
Improvement bonds due Feb. 1, 1937, rate of interest 4 per cent.,		1,909,000 00
Interest paid on same during year,	$68,580 00	
Eastern Railroad Company United States gold certificates of indebtedness due Sept. 1, 1906, rate of interest 6 per cent.,†		7,460,500 00
Eastern Railroad Company pounds sterling certificates of indebtedness due Sept. 1, 1906 (£359,400), rate of interest 6 per cent.,†		1,749,020 10
Eastern Railroad Company United States gold scrip,		21

---

* This stands on books at $83.28 per share, that being its value in Boston & Maine stock, for which it will be exchanged.

† Interest prior to June 30 paid by Eastern Railroad Company.

Funded debt — *Concluded.*	
Eastern Railroad Company debenture bonds due Sept. 1, 1906, rate of interest 4½ per cent., ...	$81,000 00
Portsmouth, Gt. Falls & Conway Railroad bonds due June 1, 1937, rate of interest 4½ per cent.,*	998,000 00
Interest paid on same during June, 1890, . . $20,430	
Portsmouth, Gt. Falls & Conway Railroad bonds due Dec. 1, 1892, rate of interest 4½ per cent., ...	2,000 00
Essex Railroad bonds due Sept. 15, 1890, rate of interest 4½ per cent.,†	192,600 00
Essex Railroad bonds due Sept. 15, 1876, rate of interest 4½ per cent., ...	1,800 00
TOTAL AMOUNT OF FUNDED DEBT, ...	$17,393,920 31

PASSENGER, FREIGHT AND TRAIN MILEAGE.

Passenger traffic:	
Number of passengers carried earning revenue, ...	29,613,549
Number of passengers carried one mile, ...	394,455,773
Average distance carried, ...	13.32
Total passenger revenue, ...	$7,128,448 75
Average amount received from each passenger, ...	24.072 cents.
Average receipts per passenger per mile, ...	1.807 "
Estimated cost of carrying each passenger one mile,‡ .	1.271 "
Passenger earnings per mile of road, ...	$6,433 39
Passenger earnings per train mile, ...	$1 36.68
Freight traffic:	
Number of tons carried of freight earning revenue, . .	6,505,909
Number of tons carried one mile, ...	397,474,144
Average distance haul of one ton, ...	61.094
Total freight revenue, ...	$6,781,165 20
Average amount received for each ton of freight, . .	$1 04.231
Average receipts per ton per mile, ...	1.706 cents.
Estimated cost of carrying one ton one mile,‡ . . .	1.088 cents.
Freight earnings per mile of road, ...	$5,610 26
Passenger and freight:	
Passenger and freight earnings, ...	14,573,177 47
Passenger and freight earnings per mile of road, . .	12,043 65
Expense per mile of road, ...	7,716 93
Total earnings from operation per mile of road, including mails, express, etc., ...	12,055 09
Train mileage:	
Miles run by passenger trains, ...	5,695,334
Miles run by freight trains, ...	3,724,846
Total mileage trains earning revenue, ...	9,420,180
Miles run by switching trains, ...	1,756,475
Miles run by construction and other trains, . . .	319,260
Total train mileage, ...	11,495,915
Average number of persons employed, ...	9,661
Rates of fare:	
Average rate of fare per mile received for local tickets, .	1.801 cents.
Average rate of fare per mile received for commutation tickets within suburban circuit, ...	1 to 2 "
Average rate of fare per mile received for commutation tickets outside suburban circuit, ...	2 to 2½ "
Average rate of fare per mile received for mileage tickets,	2 "
Average rate of fare per mile received for season tickets, .	.740 "

---

* Interest prior to June 1 paid by Portsmouth, Gt. Falls & Conway Railroad.

† Interest prior to June 30 paid by Eastern Railroad Co.

‡ See note under "Operating Expenses."

Rates of fare — *Concluded.*	
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies,	1.842 cents.
Rates of freight:	
Average rate per ton per mile received from freight waybilled local,	2 483 "
Average rate per ton per mile received from freight waybilled jointly with other railroads and transportation companies,	1.217 "
Relating to passengers:	
Passengers to Boston (including season),	9,810,602
Passengers from Boston (including season),	9,791,415
Season-ticket passengers to and from Boston,	1,847,910

Description of Road Owned.

Main line of road from Boston to Portland on Western Division,	115.50	
Main line of road from Boston to New Hampshire State Line on Eastern Division,	41.45	
Main line of road from Conway Junction to North Conway on Northern Division,	72.86	
		229.81 miles.
Main line of road in Massachusetts,		78.20 "
Main line of road in New Hampshire,		104.69 "
Main line of road in Maine,		46.92 "
Double track on main line,		99.66 "
Same in Massachusetts,		64.67 "
Branches owned by company, viz.:		
Medford Branch (single track),		2 "
Methuen Branch (2.75 miles single track; 1 mile double),		3 75 "
Great Falls Branch (single track),		2.75 "
East Boston Branch (1.91 miles single track; 1.56 miles double),		3.47 "
Charlestown Branch (double track),		1.09 "
Saugus Branch (single track),		9 55 "
Swampscott Branch (single track),		3.96 "
Marblehead Branch (single track),		3.52 "
Lawrence Branch (18 25 miles single track; 1.64 miles double),		19.89 "
South Reading Branch (single track),		8.12 "
Gloucester Branch (single track),		16.94 "
Essex Branch (single track),		6 "
Asbury Grove Branch (single track),		1.06 "
Salisbury Branch (single track),		3.79 "
Total length of branches owned by company,		85.89 "
Total length of branches owned by company in Massachusetts,		83.14 "
Total length of branches owned by company in New Hampshire,		2.75 "
Double track on branches,		5.29 "
Same in Massachusetts,		5.29 "
Total road belonging to this company,		315.70 "
Sidings and other tracks not before enumerated,		193 14 "
Same in Massachusetts,		136 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,		613.79 "
Same in Massachusetts,		367.30 "
Total length of tracks laid with steel rails,		454.94 "
[Weights per yard, 60 to 72 pounds.]		

Roads and Branches belonging to Other Companies, operated by this Company under Lease or Contract, the Operations of which are included in this Return.

Worcester, Nashua & Rochester Railroad,	94.48 miles.
Eastern Railroad in New Hampshire,	16.08 “
Portland, Saco & Portsmouth Railroad,	50.76 “
Wolfborough Railroad,	12.03 “
Chelsea Beach Railroad,	3.34 “
Newburyport City Railroad,	1.97 “
Portsmouth & Dover Railroad,	10.88 “
Danvers Railroad,	9.26 “
Newburyport Railroad,	26.98 “
Lowell & Andover Railroad,	8.73 “
West Amesbury Branch Railroad,	4.45 “
Dover & Winnipiseogee Railroad,	29 “
Manchester & Lawrence Railroad,	22.39 “
Kennebunk & Kennebunkport Railroad,	4.50 “
Boston & Lowell Railroad and branches,	98.09 “
Nashua & Lowell Railroad,	14.50 “
Stony Brook Railroad,	13.16 “
Wilton Railroad,	15.50 “
Peterborough Railroad,	10.50 “
Manchester & Keene Railroad (operated jointly with Concord Railroad),	29.59 “
Central Massachusetts Railroad,	98.77 “
Connecticut & Passumpsic Rivers Railroad,	110.30 “
Massawippi Valley Railway,	36.75 “
Northern and Concord & Claremont Railroads,	172.32 “
Total length of above roads,	894.33 “
Total length of above roads in Massachusetts,	311.14 “
Total length of roads in other States (specifying each),	583.19 “
Eastern Railroad in New Hampshire,	16.08 “
Worcester, Nashua & Rochester Railroad in New Hampshire,	55.02 “
Wolfborough Railroad in New Hampshire,	12.03 “
Portsmouth & Dover Railroad in New Hampshire,	10.88 “
West Amesbury Branch in New Hampshire,	2.32 “
Manchester & Lawrence Railroad in New Hampshire,	22.39 “
Dover & Winnipiseogee Railroad in New Hampshire,	28 “
Nashua & Lowell Railroad in New Hampshire,	5.25 “
Wilton Railroad in New Hampshire,	15.50 “
Peterborough Railroad in New Hampshire,	10.50 “
Manchester & Keene Railroad in New Hampshire,	29.59 “
Northern and Concord & Claremont Railroads in New Hampshire,	172.32 “
Portland, Saco & Portsmouth Railroad in Maine,	50.76 “
Kennebunk & Kennebunkport Railroad in Maine,	4.50 “
Connecticut & Passumpsic Rivers Railroad in Vermont,	110.30 “
Massawippi Valley Railway in Canada,	36.75 “
Total length of above roads,	894.33 “
Total length of above roads in Massachusetts,	311.14 “
Total length of above roads in other States (specifying each),	583.19 “
New Hampshire,	380.88 “
Maine,	55.26 “
Vermont,	110.30 “
Canada,	36.75 “
Total miles of road operated by this company,	1,210.03 “
Total miles of road operated by this company in Massachusetts,	472.48 “
Number of stations in Massachusetts on all roads operated by this company,	267
Number of telegraph offices in same,	138
Number of stations on all roads owned by this company,	156
Same in Massachusetts,	106

GENERAL INFORMATION.

New Bridges of over Ten Feet Span built within the Year on Roads operated in Massachusetts (including Those replacing Old Structures and Those built where None before existed).

Com'rs No.	Location.	To Replace.	Description.	Length of Spans and Number of Tracks.	By whom Built.
	Western Div.				
1	Boston, . .	Pile structure.	Pile trestle.*	– two.	B. & M. R.R.
4½ *Na*	Peabody, . .	Wood stringers.	Rolled beams.	13 ft. 6 in., one.	B. & M. R.R.
4½ *Nb*	Peabody, . .	Wood stringers.	Rolled beams.	13 ft. 6 in., one.	B. & M. R.R.
7 N	Danvers, . .	Wood stringers.	Rolled beams.	13 ft., one.	B. & M. R.R.
15 N	Georgetown, .	Wood stringers.	Wood stringers.	18 ft., one.	B. & M. R.R.
17 N	Newbury, .	Wood stringers.	Rolled beams.	13 ft., one.	B. & M. R.R.
18 N	Newbury, .	Wood stringers.	Rolled beams.	18 ft., one.	B. & M. R.R.
6 M	Methuen, . .	Wood stringers.	Wood stringers.	18 ft., one.	B. & M. R.R.
4 S R	Lynnfield, .	Wood stringers.	Rolled beams.	27 ft , one.	B. & M. R.R.
6 S R	Peabody, . .	Wood stringers.	Rolled beams.	15 ft., one.	B. & M. R.R.
5 G	Bradford, .	Wood stringers.	Rolled beams.	16 ft., one.	B. & M. R.R.
1 F H	Lowell, . .	Pile trestle.	Pile trestle.	330 ft , one.	B. & M. R.R.
	Southern Div.				
1	Boston, . .	Pile trestle.	Pile trestle.	915 ft., two. 676 ft., one.	B. & M. R.R.
36	Bedford, . .	Braced stringers.	Braced stringers.	32 ft. 6 in., one.	B. & M. R R.
39	Concord, . .	Rolled beams.	Rolled beams.	13 ft., one.	B. & M. R.R.
40	Concord, . .	Rolled beams.	Rolled beams.	15 ft., one.	B. & M. R.R.
48½	Lowell, . .	Wood stringers.	Wood stringers.	20 ft. 6 in., one.	B. & M. R.R.
60	North Reading,	Wood stringers.	Pile trestle.	40 ft., one.	B. & M. R.R.
	Central Div.				
4	Cambridge, .	Wood stringers.	Wood stringers.	13 ft. 4 in., one.	B. & M. R.R.
6	Waltham, .	Pile trestle.	Pile trestle.	150 ft., one.	B. & M. R.R.
19	Berlin, . .	Wood stringers.	Wood stringers.	18 ft., one.	B. & M. R.R.
20	Berlin, . .	Wood stringers.	Wood stringers.	18 ft., one.	B. & M. R R.
32	Oakdale, . .	Wood stringers.	Wood stringers.	19 ft. 6 in., one.	B. & M. R.R.
33	Oakdale, . .	Wood stringers.	Wood stringers.	19 ft. 10 in., one.	B. & M. R.R.

Total Length of Pile and Trestle Bridging.

Western Div., .	. . . .	4,530 ft.
Eastern Div., .	. . . .	8,022 ft.
Southern Div.,	. . . .	2,245 ft.
Central Div., .	. . . .	2,625 ft.
Total, . .	. . . .	17,422 ft.

Bridges Abolished during the Year.

6 G	Bradford, .	Filled up to 5 ft. 2 in., clear span, new masonry and rolled beams.
7 G	Bradford, .	Filled up entirely.

Bridges Extensively Repaired during the Year.

22	Haverhill, .	Raised, and new ties.
2 M	Lawrence, .	Floor beams re-enforced and strengthened.
20	Revere, . .	New caps, stringers and ties on east track.
52	Lawrence, .	Bridge raised and track surfaced.
13	Hudson, . .	Connections between floor beams and trusses reconstructed.
48	Hardwick, .	Masonry and bearings of trusses repaired.
49	New Braintree,	Bearings of trusses repaired.
68	Belchertown, .	Masonry and approaches repaired.
1	Worcester, .	New centre truss inserted and outside trusses re-enforced with additional rods.

* Still under construction.

General Information — Concluded.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade,	243
Number of crossings of highways over railroad,	68
Number of crossings of highways under railroad,	15
Number of highway bridges 18 feet above track,	6
Number of highway bridges less than 18 feet above track,	62
Height of lowest bridge above the rail,	14 ft. 4 in.
Number of crossings at which gates or flagman are maintained,	184
Number of crossings at which there are neither signals nor flagman,	59
Number of railroad crossings at grade (specifying each),	14
Boston, Union Freight Railway. Boston, Western Division and Fitchburg Railroad. Boston, Eastern Division and Fitchburg Railroad. Boston, Western Division and Eastern Division. Boston, Western Division and Grand Junction Railroad. Boston, Eastern Division and Grand Junction Railroad. Somerville, Western Division and Southern Division. Somerville, Eastern Division and Southern Division. Wilmington Junction, Western Division and Southern Division. South Lawrence, Western Division and Southern Division. Lawrence, Western Division and Southern Division. East Boston, Eastern Division and Grand Junction Railroad. Salem, Eastern Division and Southern Division. Danvers, Eastern Division and Western Division.	

Description of Equipment.

	Number Owned.	Number Leased, Owned by Leased Roads.	Total Number.	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.
Locomotives:							
Passenger,	129	115	244	–	–	242	3
Freight,	57	55	112	–	–	–	–
Other,	43	42	85	–	–	–	–
Total,	229	212	441	58 tons.	34 tons.	242	3
Passenger cars,	367	180	547	28¾ tons.	22 tons.	547	–
Combination cars,	46	67	113	–	–	113	–
Baggage, mail and express cars,	84	45	129	–	19 tons.	129	–
Parlor cars,	12	14	26	–	–	26	–
Sleeping cars,	–	2	2	–	–	2	–
Directors' and pay cars,	1	1	2	–	–	2	–
Total,	510	309*	819*	–	–	819	–
Box freight cars (basis of 8 wheels),	1,965	1,708½	3,673½	–	4½ tons. 9½ tons.	4 wheel. 8 wheel.	–
Stock freight cars (basis of 8 wheels),	24	27	51	–	–	–	–
Coal freight cars (basis of 8 wheels,	524	758	1,282	–	–	–	–
Flat freight cars (basis of 8 wheels),	1,786½	1,531	3,317½	–	3¾ tons. 7½ tons.	4 wheel. 8 wheel.	–
Other freight cars (basis of 8 wheels),	23	23¼	46¼	–	–	–	–
Total,	4,322½	4,047¾	8,370¼	–	–	–	–

* This equipment includes ten passenger cars, two parlor, two sleeping and four baggage, of which seventy per cent. is owned by our leased roads, and thirty per cent. by the Canadian Pacific Railway.

DESCRIPTION OF EQUIPMENT — Concluded.

	Number Owned.	Number Leased, Owned by Leased Roads.	Total Number.	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.
Cars in company's service :							
Gravel cars, . . .	80	129	209	-	-	-	-
Derrick cars, . . .	14	11	25	-	-	-	-
Caboose cars,. . .	49	70	119	-	-	-	-
Other road cars, . .	24	28	52	-	-	-	-
Snow plows, . . .	35	18	53	-	-	-	-
Ice cutters, . . .	6	3	9	-	-	-	-
Total, . . .	208	259	467	-	-	-	-

Number of cars in passenger equipment with 8 wheels fitted with brakes for all wheels, ...	809
Number of cars fitted with brakes on outside pair of wheels, . .	10

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL (IN MASSACHUSETTS).		FROM THEIR OWN MISCONDUCT OR CARELESSNESS (IN MASSACHUSETTS).		TOTAL IN MASSACHUSETTS.		TOTAL ON WHOLE ROAD OPERATED.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, .	-	7	7	50	7	57	8	58
Employees, .	1	13	17	121	18	134	31	157
Others, . .	1	-	43	49	44	49	60	59
Total, .	2	20	67	220	69	240	99	274

STATEMENT OF EACH ACCIDENT IN MASSACHUSETTS FOR THE YEAR ENDING JUNE 30, 1890, AS REPORTED TO THE RAILROAD COMMISSIONERS.

July 1, 1889. — At Mystic : Daniel Tobin, a trespasser, walking on the track, was struck by train and badly injured.

July 1. — At Boston : Sylvester Poland, a trespasser, lying on the track, was run over by cars and fatally injured.

July 2. — At Salem : Michael Kilfoyle, a trespasser, lying on the track, was run over by shifter and killed.

July 3. — At Boston : Charles Fernald, engineer, had his face badly cut by breaking window in his cab, caused by collision of his engine with some empty cars.

July 5 — At Prospect Hill : Michael Gateley, employee, while coupling cars, was struck on the leg by a piece of one of the couplers breaking off as the cars came together.

July 16. — At Chelsea : Willie F. Burns, a trespasser, attempting to jump across track, was struck by approaching train and his left foot cut off.

July 18. — At Lowell : R. E. Chaplin, brakeman, while coupling cars to engine, had one finger crushed.

July 18. — At Worcester : Edward Pinkham, brakeman, while coupling cars, was caught between two cars by the neck and killed.

July 21. — At Mishawum: John Reynolds, trespasser, riding on top of an ice car, struck his head against an overhead bridge, and was killed.

July 24. — At Boston: Frank McManus, trespasser, while intoxicated, was caught between car and bunting post, and fatally injured.

July 29. — At Newburyport: James Cusick, trespasser, attempting to steal a ride, fell under the wheels and was run over and killed.

July 30. — At North Cambridge Junction: William Mackay, trespasser, lying on the track, was run over and killed.

August 1. — At Worcester: Loring Martin. trespasser, while standing on the track, was struck by a passing train and had his hip bruised and face cut.

August 2. — At Haverhill: L. F. McGregor, trespasser, thinking to assist, attempted to couple engine to car, and had two fingers caught and bruised.

August 7. — At Lynn: James Cable, trespasser, lynig on the track, had his hand cut off by engine.

August 8. — At Boston: Warren Wallace, brakeman, while coupling cars, had two fingers jammed between car and engine.

August 10. — At South Billerica: Mrs. C. C. Davis, Mrs. H. Davis, Arthur Davis and Mrs. James E. Coxeter, while attempting to drive across the track, were struck by approaching train. Mrs. C. Davis had her collar bone broken, A. Davis sustained slight bruises, Mrs. Coxeter received a scalp wound, and Mrs. H. Davis dislocation and fracture of the shoulder blade.

August 15. — At Clinton: A. Desvainey, trespasser, attempting to climb over between two moving cars, had his foot caught and the bones fractured.

August 15. — At Lowell: Charles B. Smith, brakeman, in climbing down from car, struck against the station building and was thrown under the wheels, and had both legs crushed.

August 16. — At Malden: Fred L. Brown, brakeman, while coupling cars, had his hand caught and jammed.

August 17.—At South Lawrence: Geo. L. Thompson, brakeman, jumped from a moving train, and, falling under the wheels, had his left leg cut off below the knee.

August 17. — At Boston: Abraham Murdock, a passenger, fell from a moving train, receiving a cut in the back of his head.

August 24. — At Somerville: D. W. Wilcox, a passenger, jumped from moving train and fell, breaking his arm and receiving a cut under the eye.

August 25. — At North Lawrence: William Smith, a passenger, standing on car platform, leaned over to wave his hat, and struck against a switch frame, being knocked off the car thereby, receiving a cut in the back of his head, and other bruises.

August 29. — At Chelsea: Thomas A. Kelley, brakeman, struck against overhead bridge, receiving injuries in the knee and shoulder.

August 29. — At Salem: the body of an unknown man, trespasser, was found on the track, having evidently been run over by some passing train.

August 29 — At Reading: Jane Pratt, attempting to cross the track, was struck by approaching train, and killed.

August 29. — At Glenwood: Geo. B. Wickman, brakeman, while coupling cars, was caught and had one of his fingers jammed.

August 31. — At Salem: the body of Geo. A. Clough, trespasser, was found on the track cut in two; had evidently been run over by some passing train.

September 1. — At Clinton: the body of M. Hanley was found on the track, evidently run over by some passing train.

September 4. — At Greenwood: James Mooney, trespasser, walking on the track, was struck by engine, and had his arm broken.

September 7. — At Somerville: Frank C. Parks, trespasser, while intoxicated, walking on the tracks, fell, and had his foot run over and crushed by a passing train.

September 14. — At Somerville: Fred Ericson, employee, while walking on Mystic River bridge, was struck by engine, and fatally injured.

September 14. — At Lowell: Charles Bragdon, employee, while coupling cars, was caught and slightly injured about the shoulder.

September 16. — At West Lynn: William J. McCarthy, passenger, jumped from moving train, and was fatally injured.

September 20. — At Haverhill: the body of Barney Short, trespasser, was found lying on the track; was evidently struck by passing train.

September 21. — At Lancaster: Albert Warren, fireman, was killed by a head collision between two trains.

September 24. — At Wyoming: Frank Reynolds, trespasser, was found on the track, having evidently been struck by some passing train.

September 27. — At Lynn: Mrs. Sarah A. Christopher, trespasser, while walking on the track, was struck by train and instantly killed.

September 27. — At Mystic: Miss Louise Jewett, trespasser, while standing on track, was struck by engine and fatally injured. Was reported to be insane.

September 30 — At Concord: Daniel A. Darrah, switchman, stepping in front of train, was knocked under the cars and fatally injured.

September 30. — At West Boylston: Frank Casy, section hand, while turning a hand car, was caught by the crank and thrown over the car, which ran over him, fracturing his leg.

October 2. — At Lowell: W. A. McKinnon, switchman, in stepping back after coupling cars, fell down an embankment, spraining his ankle.

October 6. — At Munroe's: J. Sullivan, trespasser, while lying on track, apparently intoxicated, was struck by engine and fatally injured.

October 11. — At Boston: J. C. Mackintire, employee, while coupling cars, had his arm caught and bruised between bunters.

October 12. — At Boston: F. Wilson, employee, while coupling cars, had his finger caught and badly bruised.

October 14. — At East Somerville: Nellie M. Hatch, passenger, in alighting from car, stepped a little short on the platform, and fell, straining herself somewhat.

October 15. — At Malden: Mrs. Carter, passenger, ran against conductor's signal lantern, cutting her face.

October 16. — At Boston: Walter H. Thayer, passenger, jumped from car after his hat, which had blown off, and received some bad bruises.

October 17. — At Boston: M. C. Murphy, brakeman, fell from an engine onto a pile of rails, injuring his hip and knee.

October 18. — At Boston: G. M. Whitcomb, while driving across the track, was struck by a passing train, receiving some bad cuts and bruises.

October 19. — At Lynn: W. H. Leavitt, brakeman, in pulling pin, had his hand cut and jammed between pin and bunter.

October 21. — At Boston: Peter Lawson, trespasser, while walking on the bridge over Charles River, was struck by passing train, receiving cuts over the right eye.

October 22. — At Fells: an unknown man jumped from train, and was badly injured.

October 24. — At Haverhill: M. Slomasky, passenger, attempting to take train while in motion, fell, cutting his face somewhat.

October 24. — At Worcester: Dennis Kennedy, freight conductor, while pulling pin, had his thumb caught and crushed.

October 24. — At Lowell: A. A. Varney, brakeman, while making hitch, had his finger and thumb caught and jammed between draw-bars.

October 28. — At North Beverly: the body of Patrick Haggerty, trespasser, was found lying at side of track; was probably struck by train.

October 29. — At Somerville: James Greene, passenger, jumped from moving train, and was thrown to the ground and somewhat bruised.

November 2. — At Melrose: Miss Lizzie M. Thompson, passenger, jumped from train before it reached station, and was thrown down and slightly bruised.

November 2. — At Worcester: E. A. Cross, employee, in attempting to make a hitch, had his fingers caught and crushed between bunters.

November 4. — Herbert C. Moore, trespasser, while walking on the track, was struck by train and severely injured about head and shoulders.

November 4. — At Lynn: William Perrie stepped under the gates at Central Square crossing, and, attempting to cross the track, was struck by approaching train and instantly killed.

November 4. — At Lowell: Mrs Maggie Savery, trespasser, while walking on the track, was struck by shifting engine and instantly killed.

November 4. — At Groton: F. H. Chubb, brakeman, riding on top of box car, struck his head against overhead bridge, receiving several bruises.

November 4. — At Mystic Wharf: John Ryan, employee, in dumping a car of gravel, had his leg crushed between the edge of the car and the gravel.

November 6. — At Everett: John Shallow, passenger, fell or jumped from the train, and, striking a switch frame, received bad cuts about the head and face.

November 6. — At Lowell: Geo. Dougherty, employee, while making a hitch, was caught between the draw-bars and somewhat bruised about the chest and shoulders.

November 7. — At Lowell: Paul McDonald, employee, while making a hitch, had his arm caught and crushed between the dead-woods.

November 9. — At Haverhill: John Lynch, brakeman, stepping off of engine to throw a switch, was caught between car and the bank wall, and had his arm broken.

November 11. — At Winter Hill: Baptis Godair, employee, while crossing track, was struck and killed by passing train.

November 13. — At Revere: Calvin F. Copp, brakeman, either fell from train or was knocked off by overhead bridge, and killed.

November 14. — At Swampscott: Dennis Lyon, trespasser, crossing over track, was struck by approaching train, and one foot and one arm cut off.

November 14. — At Lowell: N. B. Stetson, employee, in opening the door of a car, was struck by some boxes piled against it, and his neck and shoulder badly bruised.

November 16. — At Boston: Maggie Creamer, passenger, in alighting from car, made a misstep and fell, bruising herself slightly.

November 16. — At Salem: Herbert Norton, employee, while coupling cars, had the fingers of one hand caught and badly bruised.

November 16. — At East Boston: Daniel J. Sullivan, employee, while loading a car, was slightly injured by a plank falling on him.

November 17. — At Swampscott: Michael ——, a passenger, jumped from train as it approached station, falling to the platform and cutting his face slightly.

November 18. — At Malden: Fred Johnson, trespasser, was struck by piece of plank which men were unloading from car, and slightly cut over the eye.

November 18. — At Danvers Junction: Edward L. Hill, passenger, stepped from train before it had stopped, and fell and hurt his face slightly.

November 18 — At Lowell: Michael Cregan, passenger, stepping from train before it had stopped, fell between the platform and rail, and the wheels passed over his right arm, crushing it.

November 19. — At Boston: Ernest McKenzie, employee, while making a hitch, was struck on the back of the head and somewhat injured, by one of the pieces flying out.

November 21 — At Somerville: Frederick Bowers, while intoxicated, attempted to cross track at Perkins Street crossing, and was struck by engine and slightly bruised about the head.

November 21. — At Woburn: an unknown lady, passenger, in alighting from train, caught her dress and fell to the ground, injuring her head slightly.

November 22. — At Somerville: Chas. Converse stepped under gate, and, attempting to cross the track, was struck by approaching train and somewhat injured about the hips.

November 22. — At Ingalls crossing: Jack O'Brien, passenger, jumped from moving train, scratching and bruising his face.

November 22. —At Haverhill: W. W. Bailey, employee, in climbing to the top of a box car, caught his clothing and fell to the ground, badly bruising his hip and face.

November 24. — At Faulkner's: Mrs. W. O. McDuffie, in alighting from train, caught her dress and was thrown to the ground, receiving internal injuries.

November 25. — At Oakdale: Patrick Doherty, employee, while climbing to the top of a box car, struck his head against a projecting awning, and received slight scalp wounds.

November 26. — At Mystic Wharf: Jas. Cameron, employee, while standing on a dump car, was caught by rope attached to hoisting engine and thrown from the car, receiving some bad bruises.

November 27. — At Ayer Junction: Patrick Riley, employee, while making a hitch, had his fingers caught and crushed between the draw-bars..

November 28. —At Salem: the body of John Lundburg was found lying between tracks; was probably struck by passing train.

November 28. — At Winchester: Herbert Lefebre, trespasser, while walking on track, was struck by train and slightly injured.

November 28. — At West Boylston: John Olsen, passenger, fell from car platform, receiving severe bruises.

November 30. — At Winchester: John Sheridan, passenger, jumped from train as it approached station, bruising and cutting his head.

December 2. — At East Cambridge: Thomas Hurley, brakeman, in coupling cars, had two fingers and one thumb crushed between draw-bars.

December 2. — At Mystic Wharf: Edward Boothby, brakeman, in coupling cars, had one finger caught and jammed.

December 5. — At Boston: Michael Kullman, employee, in loading a boiler onto a car, had his left foot caught and jammed.

December 5. — At East Boston: Robert Barker, attempting to cross track, was struck by engine and his right foot cut open.

December 7. — At Lowell: John McAuliff, attempting to cross track, was struck by cars and fatally injured.

December 9. — At East Boston; Samuel Barker, employee, in coupling cars, had his right arm caught and crushed between the dead-woods.

December 10. — At Melrose Highlands: a child of Morris Caples, passenger, had his fingers caught and crushed by the car door slamming to.

December 10. — At Mishawum: I. J. Griffiths, employee, fell from train between cars, receiving severe bruises and strains.

December 11. — At Boston: Geo. A. Wenthworth, employee, while coupling cars, had his arm caught between the dead-woods, and broken.

December 11. — At Clinton: Joseph King, employee, was struck on the back and slightly injured, by tie slipping from steam shovel.

December 11. — At South Lawrence: an unknown lady fell on leaving train, and broke her wrist

December 12. — At Boston: John Walsh, employee, trucking freight into a car, had his ankle bruised by case knocked down by concussion of cars shifted against the car in which he was at work.

December 13. — At Boston: Frank Dynell, passenger, and several others, received slight bruises and cuts by car being derailed in consequence of misplaced switch.

December 14. — At Swampscott: J. D. McKenzie, brakeman, fell from top of car platform, receiving fatal injuries.

December 14. — At East Boston: Charles Calder, employee, while coupling cars, had one finger taken off and another jammed between the draw-bars.

December 14. — At Boston: Daniel Lawlor, teamster, loading a boiler, had his leg broken by the boiler falling against it.

December 14. — At West Lynn: the body of Mrs. Mary Trainor was found lying under a freight car; had probably been run over and struck by cars.

December 18. — At Wakefield: John M. Gamage, passenger, attempting to take train while in motion, fell under the cars and was run over and fatally injured.

December 18. — At Oakdale: A. Joudrean, a teamster, while loading a car, was thrown out of it by the shock of some other cars being shifted against it, and had his arm dislocated.

December 21. — At Salem: Albert Murray, brakeman, riding on top of car, in reaching over to signal engineer, struck a telegraph pole and was knocked off of car, breaking his wrist and being otherwise slightly injured.

December 22. — At Lowell: Wilbur Judkins, employee, lost his balance and fell from the car, spraining both ankles.

December 23. — At Andover: a projecting car door on a passing freight train struck the side of a passenger car, breaking the windows and wounding Miss Hattie Chapman, Miss Josie Joscelyn, Mrs. Humphreys and several other passengers therein.

December 23. — At Lynn: John Golding, trespasser, while walking on track, was struck by engine and his skull fractured.

December 23. — At Amherst: John Deigan, employee, while walking on track, was struck by train and fatally injured.

December 23. — At Boston: Callahan McCarthy, employee, had one rib broken and his right foot bruised by a brake-shoe carelessly thrown from a Pullman car by an employee of that company.

December 23. — At Mystic Wharf: Edward Reardon, brakeman, fell between the rails under the cars, which passed over him, bruising him.

December 24. — At Lowell: M. F. Collins, brakeman, in coupling cars, had his wrist caught between them and slightly injured.

December 24. — At Mystic Wharf: Charles Prindle, switchman, while coupling cars, had two fingers jammed between draw-bars.

December 27. — At Salem: William Rickers, employee, while coupling cars, had his left hand caught and badly torn between draw-bars.

December 27. — At Oakdale: D. F. Hayes, employee, while coupling cars, had his thumb crushed between head pin and end of car.

December 27. — At Boston: Frank Solomon, passenger, had his face cut by a bell line giving way and breaking the glass in the car door near which he was standing.

December 28. — At Charlestown: Hugh B. Hilton, employee, slipped and fell from box car, receiving fatal injuries.

December 28. — At Boston: M. Haley, while intoxicated, leaned against the cars and was thrown down, injuring his wrist.

December 28. — At Worcester: S. F. Towne, brakeman, while coupling cars, had one finger broken.

December 30. — At Fells: B. H. Brown, trespasser, while walking on track, was struck by engine and fatally injured.

December 31. — At Beverly: William Washburn, brakeman, while walking on track, was struck by engine and fatally injured.

December 31. — At Lynn: Miles Sweeney, brakeman, while coupling cars, had his middle finger crushed between draw-bars.

December 31. — At Malden: Spencer T. Dodge, passenger, attempting to take train while in motion, was thrown down, receiving slight bruises and dislocating his shoulder.

December 31. — At Lynn: G. H. Russell, passenger, in alighting from train, slipped and sprained his ankle.

January 1, 1890. — At Tyngsborough: O. A. Lothrop, express messenger, fell between cars in passing, and was run over and killed.

January 1. — At Somerville: A. B. Knight, brakeman, in climbing up car ladder, lost his hold and fell, receiving slight scalp wounds.

January 3. — At Boston: John Dunn, brakeman, in getting down from top of car, lost his hold on the ladder, and, falling, was run over and instantly killed.

January 3. — At Somerville: Henry Blood, brakeman, in attempting to get on a moving train, fell under the cars, receiving fatal injuries.

January 4. — At Peabody: Jesse H. Smith, passenger, had his fingers jammed by car door slamming to.

January 6. — At Reading: Richmond Haseltine, trespasser, in taking leave of some friends, waited until the train started before jumping off, in doing which he fell, breaking his hip and leg.

January 7. — At Boston: an unknown man, trespasser, threw himself under the engine and was instantly killed.

January 8. — At South Billerica: Walter Judkins, brakeman, fell from top of train between the cars, and was killed.

January 8. — At South Lawrence: Elmer Manchester, fireman, had his ankle sprained and his back slightly injured by collision on his engine with some freight cars, while shifting.

January 10. — At East Boston: Mortimer E. Roome, employee, while coupling cars, had his left foot jammed between the pin and dead-woods.

January 10. — At Boston: Hugh Ranan, signal tender, had his shoulder bruised by signal balls and lantern falling from masthead and striking him thereon.

January 11. — At Boston: Mrs. William R. Graves, passenger, in alighting from car, slipped from the step and fell, hurting her back slightly.

January 14. — At Somerville: Norman McLoud, employee, while coupling cars, had his hand slightly jammed between draw-bars.

January 16. — At Somerville: James Caldwell, trespasser, in crossing track, was struck by train and had his face slightly injured.

January 16 — At Linden: Frank E. Chandler, trespasser, walking on the track, was struck by engine and fatally injured.

January 17. — At Lowell: Thomas Freer, passenger, attempting to take train while in motion, fell between car and platform, receiving slight injuries.

January 17. — At Bondville: H. S. Timmins, conductor, while shifting, fell between cars, dislocating his shoulder.

January 18. — At West Lynn: Florence Trask, trespasser, a child ten years of age, attempting to run across the track ahead of engine, was run over and instantly killed.

January 18. — At Lexington: Chas. Loverett, brakeman, while coupling cars, had two fingers jammed.

January 18. — At Melrose: Mrs. Carlisle, passenger, in alighting from train, slipped and fell, hurting her back somewhat.

January 20. — At Ayer Junction: Frank Hamden, brakeman, walked off the end of a car and fell to the track, cutting his knee and spraining his hip and ankle.

January 21. — At West Medford: W. H. Mooar, conductor, in throwing a switch, received scalp wounds by the switch lever flying back and striking him.

January 22. — At East Boston: Geo. W. Howard, brakeman, attempting to jump from one car to another, fell between them, breaking his arm and shoulder.

January 22. — At North Andover: an unknown man, in leaving train, fell between platform and car, injuring his leg.

January 23. — At Boston: P. A. Adams, brakeman, in pulling a pin, had two fingers caught and crushed.

January 24. — At Boston: Joseph Picord, brakeman, fell from car, spraining his leg slightly.

January 25. — At Wellington: S. M. Davis, passenger, after leaving train and crossing track for station, was struck and instantly killed by passing engine.

January 25. — At Mystic Junction: W. Ernest McKenzie, brakeman, while standing on track, was run over and killed by passing train.

January 28. — At Oak Island: Willie Quinan, a newsboy, was blown from car platform, recieving cuts about the head and knee.

January 28. — At Everett: an unknown lady fell in alighting from car, hurting her side slightly.

January 29. — At Northampton: M. L. Titus, brakeman, while coupling cars, had one finger caught and cut open.

January 30. — At Mystic Wharf: Geo. Drummond, brakeman, had his hand caught and jammed between car stake and piling, with which car was loaded.

January 31. — At Ayer Junction: Thomas Mehan, yard master, had his thumb caught and split open while making a hitch.

January 31. — At Oakdale: F. N. Newell, brakeman, in coupling cars, had his shoulder slightly jammed between dead-woods.

February 1. — At East Boston: Edward Irwin, trespasser, who had been stealing ride, in jumping off the car fell between the wheels, and had his right leg and left foot taken off, and two fingers of his left hand crushed.

February 1. — At Somerville: Daniel J. McCarthy, brakeman, while coupling cars, had his fingers slightly jammed.

February 1. — At Lowell: Hugh Russell, employee, while making a hitch, had two fingers jammed between dead-woods.

February 3. — At North Lawrence: James F. Conlan, brakeman, in alighting from car, fell and had his right arm badly jammed under the wheels.

February 4. — At Ayer Junction: J. H. Hollis, brakeman, in coupling cars, had his hand caught and jammed.

February 7. — At Boston: William M. Sawyer, brakeman, was caught between brake and end of car, and injured, caused by brake chains slipping.

February 7. — At Bradford: William Curtin, passenger, jumped from moving train, receiving bad cuts about the head and face.

February 10. — At Bradford: A. H. Wentworth, passenger, jumped from moving train, receiving a cut on his forehead.

February 11. — At Charlestown: Geo. W. Wiggin, employee, while coupling cars, had his finger caught and slightly jammed.

February 11. — At Haverhill: William Farrell, in attempting to drive across track while men were making repairs, was thrown out and badly bruised and shaken up.

February 12. — At Northampton: Peter Sullivan, trespasser, while crossing the track, was run over and fatally injured.

February 13. — At West Lynn: Henry E. Cunningham jumped from train, and was fatally injured.

February 13. — At Bradford: Mrs. Marion Adams, passenger, jumped from moving train and fell, receiving cuts and bruises about the head.

February 14.—At West Medford: J. Dinsmore and W. C. Craig, driving across track, were slightly injured by the gates being lowered and striking the carriage.

February 15. — At Ware: Andrew Lassell, employee in wrecking gang, was struck by a breaking rope, and internally injured.

February 18. — At Salem: W. O. Hatch, brakeman, fell from top of car, receiving bad scalp wounds.

February 21. — At Salem: A. Lewis Tucker, freight conductor, blown from top of car, receiving internal injuries and dislocating his shoulder.

February 21. — At Stoneham: Henry McNally, brakeman, while coupling cars, had his arm caught and crushed between dead-woods.

February 21. — At Ayer Junction: E. E. Stacy, conductor, while coupling cars, had his arm caught and jammed just above the wrist.

February 22. — At Lowell Junction: Timothy Lane, brakeman, fell from top of car, bruising his knee somewhat.

February 25. — At Winter Hill: train No. 59 ran into the rear of train No. 53, slightly injuring Mrs. Brownell, Chas. Faulkner and M. F. Gifford, passengers; J. Clark, engineer; and Frank Hutchinson, brakeman.

February 25. — At Mystic Wharf: Robert Walls, brakeman, had a finger jammed while coupling cars.

February 27. — At Boston: Edward Kerns, employee, while loading freight fell from a car, receiving several bruises on head and right side.

February 28. — At Mystic Wharf: Geo. Barker, trespasser, attempting to climb over between two freight cars, had his foot caught and jammed between draw-bars.

March 1. — At Boston: Barney McEnroe, trespasser, walking on track, was struck by engine and had his hand cut off.

March 3. — At Ayer Junction: H. H. Webber, brakeman, while coupling cars to engine, had his finger jammed between the pin and draw-casting on tender.

March 4. — At South Lawrence: Alfred Le Bowf, brakeman, slipped between the cars and had both feet cut off.

March 6. — At Arlington: L. C. Tyler, trespasser, attempting to cross between two cars, was caught and somewhat injured,

March 6. — At Ware: W. W. Hart, brakeman, in coupling cars, had his thumb crushed.

March 6. — At Lynn Common: Martin Ferrin, attempting to climb between two cars as train backed from crossing, had his foot jammed between draw-bars.

March 7. — At Boston station: Charles H. Woodman, trespasser, attempting to pass between a car and a bunting post, was caught and jammed between them.

March 7. — At Charlestown: Albert Bailey, employee, while riding on car step, fell off under the wheels, and was instantly killed.

March 7. — At Boston: Frank Johnson, employee, while pulling pin, had his finger caught and crushed.

March 7. — At Methuen: David Ross, brakeman, while coupling cars, had a finger crushed.

March 8. — At Worcester: Thomas J. Ramsey, brakeman, while making a hitch, had two fingers slightly jammed between bumpers.

March 12. — At Boston: James Adamson, brakeman, while crossing track, slipped and fell, dislocating his elbow.

March 17. — At Clinton: Joseph Lavall, trespasser, stealing a ride, slipped and fell, the wheels passing over and badly injuring his leg.

March 18. — At Amesbury: Alexander Poulin, trespasser, while running on track, was struck by engine and fatally injured.

March 18. — At Boston: Joseph H. Oliver, employee, while coupling cars, had his leg slightly bruised.

March 18. — At East Boston: John Freeman, employee, while loading car, had his hand jammed and one finger broken between draw-bars.

March 19. — At Ware: Chas Dolber, employee, had his thumb caught and broken by one of the coal tubs.

March 19. — At Everett: Patrick Crosby, passenger, fell from train, receiving slight cuts and scratches.

March 20. — At Wellington: Stephen Farrell, passenger, either fell or jumped from train, and was fatally injured.

March 20. — At Knight's crossing: Charles Briggs, fireman, in leaning out of cab, struck his head against bridge post, receiving bad scalp wounds.

March 20. — At Lowell: James McCartney, brakeman, while coupling cars, had his shoulder bone broken and received internal injuries.

March 21. — At East Cambridge: Daniel Leary, employee, while coupling cars, was bruised and internally injured.

March 22. — At Marblehead: Harry Sayward, employee, attempting to take moving train, fell under the engine and had one foot crushed.

March 24. — At Salem: Asa Hayfood, brakeman, was thrown from a coal car and had his ankle sprained.

March 25. — At East Boston: William Welch, a laborer, while unloading a car of spars, was instantly killed by one of the spars rolling over on him.

March 26. — At Boston: Michael Lahey, passenger, in taking train, fell on platform, slightly injuring his shoulder.

March 27. — At Worcester: Michael O'Neil and Patrick Conway, trespassers, while walking on track, were run over and instantly killed.

March 27. — At Worcester: Patrick Whalen, trespasser, attempting to cross track, was struck by engine and fatally injured.

March 29. — At Worcester: Nicholas Kirby, a child, a trespasser, fell from the fence under some freight cars, and was run over, receiving fatal injuries.

March 30. — At Lynn: Dennis L. Buckley, conductor, while coupling cars, had his right hand badly bruised.

March 31. — At Ipswich: Michael Logan was found lying beside track, severely injured; probably run over by passing train. Died at hospital the following morning.

April 1. — At Haverhill: Eugene Davidson, trespasser, while standing on track, was struck by train and instantly killed.

April 1. — At Lowell: Chas. Lallmand, brakeman, in climbing onto a car, stumbled and fell, cutting his knee.

April 2. — At Lynn: Admund B. Thompson, conductor, while pulling pin, had his right thumb caught and the bone fractured.

April 6. — At East Lynn: the body of an unknown man was found lying beside track; had apparently been struck by passing train.

April 7. — At Somerville Highlands: Hiram Cross, passenger, fell from car, and was struck on the head by car steps as they passed.

April 7. — At Maplewood: Arthur L. Plummer, passenger, attempting to take moving train, fell under the wheels, having one foot crushed and several slight scalp wounds.

April 7. — At Danvers Junction: H. E. Chickering, brakeman, while coupling cars, had his fingers caught and jammed between the draw-bars.

April 8. — At Revere: Ethel Ketzen, passenger, either fell or jumped from train, receiving numerous cuts and bruises.

April 8. — At Ayer Junction: Arthur Lennazett, brakeman, while coupling cars, caught and sprained his wrist.

April 8. — At Boston: John Flynn, passenger, attempting to take car, fell to the platform, spraining his wrist.

April 9. — At Boston: J. P. Schofield, passenger, fell from car platform, striking on his head and somewhat cutting him.

April 10. — At Lynn: Albert H. Johnson, brakeman, while coupling cars, had his thumb caught and badly bruised.

April 10. — At Lowell: Jas. Moran, attempting to drive across track, was struck by a car and thrown from his team, and somewhat bruised.

April 11. — At Haverhill: T. F. Roche, trespasser, attempting to look into a car at which an "iron run" was placed, the car starting up, his foot was caught and bruised between the run and an adjacent barrel.

April 11. — At Wamesit: John McCullough, brakeman, while coupling cars, had his finger caught and jammed between dead-woods.

April 12. — At Somerville: Loring K. Foss, employee, while coupling cars, had his heel caught and jammed.

April 12. — At Beverly: Mr. Bixby, passenger, in alighting from train, fell to the platform, breaking his leg.

April 14. — At Boston: Daniel J. Sullivan, trespasser, while walking on track, was struck by engine and slightly injured.

April 14. — At Pepperell: C. Vantine, brakeman, was thrown from train, receiving bad bruises.

April 14. — At West Boylston: H. W. Smith, brakeman, while waving his hand in car, struck it against a water tank, bruising his wrist.

April 19. — At Clinton: Martin Grady, brakeman, fell from train, cutting his head and hand.

April 22. — At Lynn Common: Wilbur Boutilier, trespasser, while running across track, was struck by engine and slightly injured.

April 23. — At Worcester: Geo. W. Kimball, freight conductor, while dumping some coal, had his finger caught and badly crushed.

April 26. — At Boston: John McFarland, employee, while coupling cars, was caught and his collar bone and two ribs broken.

April 28. — At Hadley: C. Willet, section foreman, fastened his hand-car to rear end of freight train; the wheel of the car breaking, he was thrown off, spraining his ankle and receiving slight injuries about the head.

May 3. — At Wellington: Frank Mason, passenger, jumped from train, receiving slight bruises.

May 5. — At Boston: Owen Berry, employee, while wheeling freight from a car, was struck and somewhat injured by a case of goods thrown onto him by the shock of another car striking against the one in which he was.

May 6. — At Mystic Wharf: David Hussey: conductor, stepping from car, caught his foot in draw-bar and fell over backwards, injuring his back and shoulder.

May 7. — At Lynn: Robert McCann, trespasser, a boy nine years of age, attempting to cross track, was struck by engine and instantly killed.

May 9. — At Lowell: Stephen Lallmand, while coupling cars, had his finger crushed between draw-bars.

May 9. — At Hudson: Leslie Dawes, while assisting men to couple cars, had one finger crushed.

May 9. — At East Cambridge: J. W. Rhodes, brakeman, in climbing up between cars, had his foot caught and slightly jammed.

May 9. — At Mystic Wharf: E. F. Cass, brakeman, while walking beside track, was struck in the back and slightly injured by projecting car door on passing train.

May 13. — At Lawrence: the body of T. Mahoney was found lying on the track; had evidently been run over by passing train.

May 13. — At Salem: John J. McNiff, brakeman, while coupling cars, had two fingers caught and crushed.

May 13. — At Oakdale: John Chadwick, trespasser, in attempting to climb over between two cars, had his foot caught and jammed.

May 14. — At Malden: Mrs. J. A. Brown, in alighting from train, fell, spraining her ankle.

May 15. — At Rockport: Norman McLeod, brakeman, in attempting to climb onto caboose, fell and injured his back.

May 15. — At Oakdale: C. W. Campbell, brakeman, while coupling cars, had his arm caught and jammed between dead-woods.

May 16. — At Somerville: James E. Holland, brakeman, in coupling cars, had his arm caught and jammed between dead-woods.

May 17. — At Somerville: George H. Crosby, trespasser, a boy, while playing in a car, had his foot crushed by a tool box, which was moved from its position by other cars striking against the one in which he was standing.

May 19. — At Charlestown: Dennis Buckley, trespasser, while intoxicated and leaning against car, was thrown down and somewhat injured by the train starting up.

May 20. — At Danvers: Thomas Moore, trespasser, while walking on track, was struck and killed by passing train.

May 20. — At Winchester: John Cotton, brakeman, while climbing up car ladder, struck against tell-tale post and was thrown into car, bruising his hip somewhat.

May 22. — At Somerville: Otis J. Connor, trespasser, in attempting to climb over between two cars, had his foot caught and slightly jammed between draw-bar.

May 24. — At Everett: E. M. Winchester, in jumping from train, had one foot run over and crushed.

May 25. — At Maplewood: John Soderland, passenger, attempting to take train, slipped and was dragged some distance, receiving slight cuts and bruises.

May 25. — At Lynn: John J. Harney, trespasser, while walking on track, was struck by train and instantly killed.

May 26. — At Somerville: Henry Arnold, passenger, had his leg caught and jammed between car seat and frame.

May 28. — At Belchertown: E. C. Roberts, brakeman, fell from train, bruising and straining himself somewhat.

May 29. — At East Cambridge: T. Crimmins, gateman, while running across track, was struck by train and instantly killed.

May 30. — At East Cambridge: Henry Horgan, trespasser, while climbing onto a dump car, lost his hold and fell under the train, his right foot being cut off.

May 31. — At Salem: Joseph Monson, trespasser, who had been stealing a ride, jumped from train, receiving bad bruises on his face and body.

June 1. — At Woburn: H. P. Alexander, brakeman, while coupling cars, was caught and jammed between engine and car platform.

June 2. — At Chelsea: Louisa J. A. Reed, attempting to cross track, was struck by train and instantly killed.

June 2. — At Groton: L. N. Young, brakeman, struck his head against overhead bridge, cutting it slightly.

June 3. — At New Braintree: Mrs. O'Brien, trespasser, walking on track, was struck by engine and instantly killed.

June 8. — At Everett: C. Freiley, passenger, fell from car platform and was fatally injured.

June 9. — At Swampscott: Frank Fallek, brakeman, was thrown from top of car, run over and instantly killed.

June 10. — At East Cambridge: William Meyer, conductor, fell from a car, receiving internal injuries.

June 10. — At Somerville: Albert J. Healey, brakeman, in coupling cars, had his arm caught between dead-woods and slightly bruised.

June 11. — At Rockport: John Pickering, brakeman, in coupling cars, had his fingers caught and jammed.

June 11. — At Worcester: Oliver Remilly, brakeman, while making a hitch, had his finger caught and jammed.

June 12. — At Mystic Wharf: F. J. Barry, brakeman, fell from train, cutting his head and hurting his thigh.

June 12. — At West Andover: John Stapleton, brakeman, in setting brakes, fell from car, and was run over and instantly killed.

June 13 — At Everett: Joseph H. Doe, passenger, fell from train, and was run over and instantly killed.

June 17. — At Coldbrook: G. A. Conant, baggage master, was burned about the face, neck and hands, by an explosion of gas in passenger car.

June 18. — At Beverly: Clara B. Carver, trespasser, attempting to crawl under a train, the car started up and passed over her, injuring her slightly.

June 18. — At Northampton: Edward D. Carter, brakeman, while coupling cars, had two fingers jammed.

June 20. — At Fells: James Murphy, employee, while unloading coal, fell out of the car, cutting his head badly.

June 21.—At Farm Hill: A. D. Clement and Levi Thompson, while driving across the track, were struck by train, Clement receiving fatal injuries and Thompson slight bruises and cuts.

June 21. — At Malden: Jerry Sullivan, passenger, attempting to take train while in motion, fell, and was dragged about one hundred feet, receiving severe scratches and bruises.

June 21. — At Boston: Mrs. F. H. Tarbox, passenger, in alighting from train, fell, spraining her hand and wrist.

June 23. — At Boston: William H. Robinson, freight conductor, while coupling cars, had his arm caught and slightly jammed.

June 27. — At Lynn: William H. Childs, brakeman, while coupling cars, had his finger broken and thumb bruised.

June 30. — At Wilmington: Thomas Shay, passenger, while attempting to take moving train, fell over a switch stand, bruising himself somewhat.

Name and Residence of Officers.

Frank Jones, *President*, Portsmouth, N. H. Jas. T. Furber, *Vice-President and General Manager*, Lawrence, Mass. Richard Olney, *General Counsel*, Boston, Mass. Wm. J. Hobbs, *General Auditor*, Malden, Mass. Wm. Merritt, *Superintendent Western Division*, Boston, Mass. Winslow T. Perkins, *Superintendent Eastern Division*, Dover, N. H. John W. Sanborn, *Superintendent Northern Division*, Wolfeborough Junction, N. H. Geo. W. Hurlburt, *Superintendent Worcester, Nashua and Portland Division*, Worcester, Mass. D. W. Sanborn, *Superintendent Southern Division*, Somerville, Mass. Geo. E. Todd, *Superintendent Northern Railroad Division*, Concord, N. H. H. E. Folsom, *Superintendent Passumpsic Division*, Lyndonville, Vt. D. J. Flanders, *General Passenger and Ticket Agent*, Malden, Mass. W. F. Berry, *General Freight Agent*, Winchester, Mass. Amos Blanchard, *Treasurer*, Andover, Mass. Herbert E. Fisher, *Assistant Treasurer*, Somerville, Mass. Sigourney Butler, *Clerk of Corporation*, Quincy, Mass.

Name and Residence of Directors last elected.

Frank Jones, Portsmouth, N. H. George C. Lord, Newton, Mass. Amos Paul, South New Market, N. H. Wm. S. Stevens, Dover, N. H. Jos. S. Ricker, Deering, Me. Richard Olney, Boston, Mass. Saml. C. Lawrence, Medford, Mass. Wm. T. Hart, Boston, Mass. Asa P. Potter, Boston, Mass. Jas. T. Furber, Lawrence, Mass. A. W. Sulloway, Franklin, N. H.

Proper Address of the Company.

BOSTON & MAINE RAILROAD,
Boston, Mass.

FRANK JONES,
JAS. T. FURBER,
WM. T. HART,
RICHARD OLNEY,
GEORGE C. LORD,
A. W. SULLOWAY,
ASA P. POTTER,
Directors.
HERBERT E. FISHER,
Assistant Treasurer.
JAS. T. FURBER,
Vice-President and General Manager.

Commonwealth of Massachusetts.

Suffolk ss. Boston, Sept. 6, 1890. Then personally appeared Frank Jones, Jas. T. Furber, Wm. T. Hart, Richard Olney, George C. Lord, A. W. Sulloway, Asa P. Potter and Herbert E. Fisher, and severally made oath to the foregoing statement by them subscribed, according to their best knowledge and belief.

C. E. A. BARTLETT,
Justice of the Peace.

Sept. 16, 1890. Approved.

GEO. H. POOR,
Commissioner for Mass.

REPORT

OF THE

BOSTON & PROVIDENCE RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Old Colony Railroad Company.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,		$511,000 00
TOTAL INCOME,		511,000 00
Salaries and maintenance of organization,	$6,207 34	
Interest on funded debt,	101,000 00	
TOTAL,		107,207 34
NET INCOME,		403,792 66
Dividends declared (10 per cent.),		400,000 00
Surplus for year ending June 30, 1890,		3,792 66
Balance Profit and Loss Account June 30, 1889 (surplus),		107,715 24
TOTAL PROFIT AND LOSS ACCOUNT (SURPLUS),		111,507 90
Add:		
Received for premium on bonds,		1,760 00
Deduct:		
Expenses personal injuries,	$23,588 30	
Expense bills paid,	13,699 21	
		37,287 51
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		75,980 39

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$5,046,088 30	
Cost of equipment,	871,234 35	
Stock of Prov., Warren & Bristol Railroad,	158,505 00	
Stock of Union Freight Railroad,	79,014 42	
Lands in Massachusetts,	77,573 98	
TOTAL PERMANENT INVESTMENTS,		$6,232,416 05
Cash,		160,668 95
TOTAL,		$6,393,085 00

Cr.

Capital stock,		$4,000,000 00
Funded debt,		2,150,000 00
Current liabilities:		
Balances due to other companies,	$12,763 61	
Dividends not called for,	3,541 00	
Matured interest coupons unpaid (including coupons due July 1),	50,800 00	
Dividend due July 1,	100,000 00	
TOTAL CURRENT LIABILITIES,		167,104 61
Profit and Loss balance,		75,980 39
TOTAL,		$6,393,085 00

CAPITAL STOCK.

Capital stock authorized by charter,	$4,000,000 00	
Capital stock authorized by votes of company,	4,000,000 00	
Capital stock issued (number of shares, 40,000); amount paid in,		$4,000,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		4,000,000 00
Total number of stockholders,	1,526	
Number of stockholders in Massachusetts,	1,205	
Amount of stock held in Massachusetts,	$3,387,400 00	

DEBT.

Funded debt, as follows:	
Bonds due July 1, 1893, rate of interest 7 per cent.,	$500,000 00
Bonds due July 1, 1918, rate of interest 4 per cent.,	1,590,000 00
Notes payable,	60,000 00
TOTAL AMOUNT OF FUNDED DEBT,	$2,150,000 00

DESCRIPTION OF ROAD OWNED.

Main line of road from Boston to Providence, R. I.,	44 miles.
Main line of road in Massachusetts,	38.14 “
Main line of road in Rhode Island,	5.86 “
Double track on main line,	44 “
Same in Massachusetts,	38.14 “
Third track on main line,	8.67 “
Same in Massachusetts,	8.67 “
Branches owned by company, viz.:	
West Roxbury (double track),	5.366 “
Dedham (single track),	2.224 “
India Point (single track),	8.048 “
Stoughton (single track),	4.114 “
Total length of branches owned by company,	19.752 “
Total length of branches owned by company in Massachusetts,	15.189 “
Total length of branches owned by company in Rhode Island,	4 563 “
Double track on branches,	5 366 “
Same in Massachusetts,	5.366 “
Total road belonging to this company,	63 752 “
Sidings and other tracks not before enumerated,	48.18 “
Same in Massachusetts,	35 61 “
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	169 968 “
Same in Massachusetts,	141 115 “
Total length of tracks laid with steel rails,	129.50 “

[Weights per yard, 70 pounds.]

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	52
Number of crossings of highways over railroad,	34
Number of crossings of highways under railroad,	7
Number of highway bridges 18 feet above track,	17
Number of highway bridges less than 18 feet above track,	19
Height of lowest bridge above the rail,	14 ft. 1 in.
Number of crossings at which gates or flagman are maintained,	40
Number of crossings at which electric signals are maintained,	16
Number of crossings at which there are neither signals nor flagman,	12
Number of railroad crossings at grade (specifying each), Boston & Albany.	1
Number of railroad crossings under other railroads (specifying each), New York & New England Railroad at Readville. Providence & Worcester Railroad at Attleborough.	2

NAME AND RESIDENCE OF OFFICERS.

Joseph W. Balch, *President*, Boston, Mass. Benjamin B. Torrey, *Treasurer and Clerk of Corporation*, Boston, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Joseph W. Balch, Boston, Mass. Thomas P. I. Goddard, Providence, R. I. Wm. R. Robeson, Lenox, Mass. Royal C. Taft, Providence, R. I. Robert H. Stevenson, Boston, Mass. Roger Wolcott, Boston, Mass. John Lowell, Boston, Mass.

PROPER ADDRESS OF THE COMPANY.

BOSTON & PROVIDENCE RAILROAD CORPORATION.

BOSTON, MASS.

JOSEPH W. BALCH,
ROYAL C. TAFT,
ROBT. H. STEVENSON,
JOHN LOWELL,
Directors.
B. B. TORREY,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS. Oct. 8, 1890. Then personally appeared Joseph W. Balch, Royal C. Taft, Robert H. Stevenson, John Lowell and B. B. Torrey, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

AUSTIN W. ADAMS,
Justice of the Peace.

REPORT

OF THE

BOSTON, REVERE BEACH & LYNN RAILROAD COMPANY,

For the Year ending June 30, 1890.

[A narrow-gauge road.]

Income Account.

General Exhibit for the Year.

Gross earnings from operation,	$280,951 99	
Less operating expenses,	209,762 52	
Income from operation,		$71,189 47
Miscellaneous income, less expenses,		18,630 12
Total Income,		89,819 59
Deductions from income:		
Interest on funded debt accrued during year,	$21,000 00	
Interest and discount on interest-bearing current liabilities,	4.847 05	
Taxes,	12,804 38	
Total deductions from income,		38,651 43
Net Income,		51,168 16
Dividends declared (7 per cent. on common stock),		42,000 00
Surplus for year ending June 30, 1890,		9,168 16
Balance Profit and Loss Account June 30, 1889 (surplus),		80,240 71
Balance Profit and Loss Account June 30, 1890 (surplus),		89,408 87

Earnings from Operation.

Passenger:	
Passenger revenue,	$283,440 39
Excess fares refunded,	2,488 40
Total deductions,	2,488 40
Total passenger revenue,	280,951 99
Total Gross Earnings from Operation,	280,951 99

Operating Expenses.

Maintenance of way and structures:	
Repairs of roadway,	$15,772 24
Renewals of ties,	1,130 58
Repairs of bridges and culverts,	8,035 77
Repairs of fences, road-crossings, signs and cattle guards,	919 39
Repairs of buildings,	12,885 06
Total,	$38,743 04
Maintenance of equipment:	
Repairs and renewals of locomotives,	$9,677 81
Repairs and renewals of passenger cars,	17,390 00
Repairs and renewals of ferry-boats, tugs, floats and barges,	3.806 63
Total,	$30,874 44

Conducting transportation:	
Wages of enginemen, firemen and roundhousemen,	$10,493 70
Fuel for locomotives,	15,775 27
Water-supply for locomotives,	2,091 27
All other supplies for locomotives,	1,223 03
Wages of other trainmen,	19,918 45
All other train supplies,	1,865 21
Wages of switchmen, flagmen and watchmen,	13,534 10
Expense of telegraph, including train despatchers and operators,	1,272 94
Wages of station agents, clerks and laborers,	11,954 74
Station supplies,	6,285 17
Loss and damage,	103 00
Injuries to persons,	4,585 52
Barges, floats, tugs, ferry-boats, expenses of, including wages, fuel and supplies,	22,818 63
Other expenses,	4,860 00
TOTAL,	$116,781 03
General expenses:	
Salaries of officers,	$7,250 00
Salaries of clerks,	3,875 95
General office expenses and supplies,	1,509 48
Advertising,	1,990 30
Insurance,	1,334 55
Legal expenses,	1,059 70
Stationery and printing,	4,635 26
Other general expenses,	1,708 77
TOTAL,	$23,364 01
Recapitulation of expenses:	
Maintenance of way and structures,	$38,743 04
Maintenance of equipment,	30,874 44
Conducting transportation,	116,781 03
General expenses,	23,364 01
GRAND TOTAL,	$209,762 52

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Lands, land damages and fences,	$12,111 14
Passenger and freight stations, wood-sheds and water-stations,	68,186 74
Engine-houses, car-sheds and turn-tables,	11,766 52
TOTAL FOR CONSTRUCTION,	92,064 40
Locomotives (number, 2),	15,863 65
TOTAL FOR EQUIPMENT,	15,863 65
TOTAL CHARGES TO PROPERTY ACCOUNTS,	107,928 05

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$870,223 24	
Cost of equipment,	248,878 42	
Stock of Boston, Winthrop & Shore Railroad,	30,000 00	
Lands,	68,214 46	
Ferry property,	73,000 00	
TOTAL PERMANENT INVESTMENTS,		$1,290,316 12

Cash,	$16,087 35	
Bills receivable,	75,000 00	
Due from solvent companies and individuals,	1,893 89	
TOTAL CASH AND CURRENT ASSETS,		$92,981 24
Other assets:		
Materials and supplies,		33,819 33
TOTAL,		$1,417,116 69

CR.

Capital stock,		$750,000 00
Funded debt,		350,000 00
Current liabilities:		
Loans and bills payable,	$160,000 00	
Audited vouchers and accounts,	19,926 70	
Dividends not called for,	233 50	
Matured interest coupons unpaid (including coupons due July 1),	180 00	
Improvement fund,	47,367 62	
TOTAL CURRENT LIABILITIES,		227,707 82
Profit and Loss balance,		89,408 87
TOTAL,		$1,417,116 69

Current Liabilities and Assets.

CURRENT LIABILITIES ACCRUING UP TO AND INCLUDING JUNE 30, 1890.

Loans and bills payable,	$160,000 00
Audited vouchers and accounts,	19,926 70
Dividends not called for,	233 50
Matured interest coupons unpaid (including coupons due July 1,	180 00
TOTAL,	$180,340 20

CASH AND CURRENT ASSETS AVAILABLE FOR PAYMENT OF CURRENT LIABILITIES.

Cash,	$16,087 35
Bills receivable,	75,000 00
Due from solvent companies and individuals,	1,893 89
Balance net current liabilities,	87,358 96
TOTAL,	$180,340 20
Materials and supplies on hand (see Balance Sheet),	$33,819 33

Present or Contingent Liabilities not included in the Balance Sheet.

Bonds guaranteed by this company or a lien on its road, viz.: $289,000 Boston, Winthrop & Shore Railroad, 1st mortgage 5 per cent.

CAPITAL STOCK.

Capital stock authorized by charter,	Unlimited.	
Capital stock authorized by votes of company,	$800,000 00	
Capital stock issued (number of shares, 7,500); amount paid in,		$750,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		750,000 00
Total number of stockholders,	362	
Number of stockholders in Massachusetts,	337	
Amount of stock held in Massachusetts,	$667,100 00	

DEBT.

Funded debt, as follows:		
First mortgage bonds due 1897, rate of interest 6 per cent.,		$350,000 00
Interest paid on same during year,	$21,000 00	

PASSENGER, FREIGHT AND TRAIN MILEAGE.

Passenger traffic:	
Number of passengers carried earning revenue,	2,650,227
Number of passengers carried one mile,	12,802,901
Average distance carried,	4 44
Total passenger revenue,	$280,951 99
Average amount received from each passenger,	.1057 cents.
Average receipts per passenger per mile,	.0201 "
Estimated cost of carrying each passenger one mile,	.0163 "
Passenger earnings per mile of road,	$31,914 99
Passenger earnings per train mile,	1 30
Passenger and freight:	
Passenger earnings,	$280,951 99
Passenger earnings per mile of road,	31,914 99
Expense per mile of road,	23,836 65
Total earnings per mile of road, including mails, express, etc.,	31,914 99
Train mileage:	
Miles run by passenger trains,	214,854
Total mileage trains earning revenue,	214,854
Miles run by construction and other trains,	2,926
Total train mileage,	217,780
Average number of persons employed,	189
Rates of fare:	
Average rate of fare per mile received for local tickets,	.0210 cents.
Average rate of fare per mile received for commutation tickets,	.0138 "
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies,	.0101 "
Relating to passengers:	
Passengers to Boston (including season),	1,302,770
Passengers from Boston (including season),	1,347,457
Season-ticket passengers to and from Boston,	525,049

DESCRIPTION OF ROAD OWNED.

Main line of road from East Boston to Lynn,	8.8 miles.
Main line of road in Massachusetts,	8.8 "
Double track on main line,	8 3 "
Same in Massachusetts,	8.3 "
Total road belonging to this company,	8.8 "
Sidings and other tracks not before enumerated,	2.5 "
Same in Massachusetts,	2.5 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	19.6 "
Same in Massachusetts,	19.6 "
Total length of tracks laid with steel rails,	17.1 "
[Weights per yard, 50 pounds.]	
Total miles of road operated by this company,	8.8 "
Total miles of road operated by this company in Massachusetts,	8.8 "
Number of stations in Massachusetts on all roads operated by this company, including Boston ferry terminus,	11
Number of telegraph offices in same,	9
Number of stations on all roads owned by this company, including Boston,	11
Same in Massachusetts, including Boston,	11

GENERAL INFORMATION.

Bridges on Roads Operated in Massachusetts.

Total length of pile and trestle bridging,	4,619 feet.
Bridges extensively repaired during the year (specify how): West Lynn, one new truss and additional rods in all trusses. Saugus River, extra caps, stringers and ties. Winthrop Junction, new braces and caps. Harbor View, new caps, piles and ties. Wood Island, new braces, caps, stringers, ties and piles.	
Total amount expended for repairs and renewals of bridges,	$8,035 37

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	9
Number of crossings of highways over railroad,	6
Number of highway bridges less than 18 feet above track,	4
Height of lowest bridge above the rail,	12 ft. 4 in.
Number of crossings at which gates or flagman are maintained,	9

DESCRIPTION OF EQUIPMENT.

	Number Owned.	Total Number.	Maximum Weight. Nine alike.	Minimum Weight. One only.	Number Equipped with Train Brake.	Number Equipped with Patent Coupler.
Locomotives: Passenger,	10	10	76,000 lbs.	abt. 55,000 lbs.	10	-
TOTAL,	10	-	-	-	-	-
Passenger cars,	37	37	18 tons.	14 tons.	37	37
Combination cars,	8	-	18 tons.	16 tons.	8	8
TOTAL,	45	45	-	-	45	45
Box freight cars (basis of 8 wheels),	3	3	-	-	3	3
Flat freight cars (basis of 8 wheels),	4	4	-	-	-	-
TOTAL,	7	7	-	-	-	-
Cars in company's service: Gravel cars,	10	10	-	-	-	-
TOTAL,	10	10	-	-	-	-

Number of cars in passenger equipment with 8 wheels fitted with brakes for all wheels,	45

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL (IN MASSACHUSETTS).		FROM THEIR OWN MISCONDUCT OR CARELESSNESS (IN MASSACHUSETTS).		TOTAL IN MASSACHUSETTS.		TOTAL ON WHOLE ROAD OPERATED.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	-	-	2	-	2	-	2
Employees,	-	-	-	1	-	1	-	1
Others,	-	-	-	2	-	2	-	2

STATEMENT OF EACH ACCIDENT IN MASSACHUSETTS.

November 24, 1889. — John Symonds, standing on platform, was thrown against railing as cars stopped at Lynn, and slightly injured.

January 13, 1890. — John Murphy got off train before it stopped, at Point of Pines, and received some injuries.

February 17. — Michael King, trespasser on Saugus River bridge, was struck by train and slightly injured.

April 6. — A. B. Jernegan, an employee (locomotive engineer), while leaning out of cab window to watch slight leak in steam pipe, came in contact with post carrying bridge guard east of Point of Pines overhead bridge, and was severely injured in the head, rendering him unconscious. Fireman stopped train, and Mr. Jernegan was taken by next train to Lynn Hospital. Fortunately, his injuries did not prove fatal.

May 29. — Henry Yost, trespasser, lying too near track, and drunk, struck by train near West Lynn and severely injured.

NAME AND RESIDENCE OF OFFICERS.

I. P. T. Edmands, *President*, Boston, Mass. C. A. Hammond, *Superintendent*, Lynn, Mass. John A. Fenno, *Treasurer*, Newton, Mass. John A. Fenno, *Clerk of Corporation*, Newton, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

I. P. T. Edmands, Boston, Mass. Matthew Bolles, Boston, Mass. Edward Tyler, Boston, Mass. Jesse Tirrell, Boston, Mass. Joshua B. Richmond, Boston, Mass. Amos F. Breed, Lynn, Mass. David H. Sweetser, Lynn, Mass. Joseph W. Smith, Andover, Mass.

PROPER ADDRESS OF THE COMPANY.

BOSTON, REVERE BEACH & LYNN RAILROAD COMPANY,
350 ATLANTIC AVENUE, BOSTON, MASS.

ISAAC P. T. EDMANDS,
DAVID H. SWEETSER,
EDW. TYLER,
MATTHEW BOLLES,
JESSE TIRRELL,
Directors.
JOHN A. FENNO,
Treasurer.
CHARLES A. HAMMOND,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Sept. 18, 1890. Then personally appeared Isaac P. T. Edmands, David H. Sweetser, Edw. Tyler, Matthew Bolles, Jesse Tirrell and Charles A. Hammond, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

JOHN A. FENNO,
Justice of the Peace.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Sept. 18, 1890. Then personally appeared John A. Fenno, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

DAVID H. SWEETSER,
Justice of the Peace.

REPORT

OF THE

BOSTON, WINTHROP & SHORE RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[A narrow-gauge road.]

INCOME ACCOUNT.

General Exhibit for the Year.

Gross earnings from operation,	$35,418 00	
Less operating expenses,	23,064 35	
Income from operation,		$12,353 65
Miscellaneous income, less expenses,		743 50
TOTAL INCOME,		13,097 15
Deductions from income:		
Interest on funded debt accrued during year,	$12,300 00	
Interest and discount on interest-bearing current liabilities,	3,596 36	
Taxes,	316 88	
Total deductions from income,		16,213 24
Deficit for year ending June 30, 1890,		3,116 09
Balance Profit and Loss Account June 30, 1889 (deficit),		959 94
TOTAL PROFIT AND LOSS ACCOUNT (DEFICIT),		4,076 03
Deduct:		
Premium on bonds sold,		3,440 00
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (DEFICIT),		636 03

EARNINGS FROM OPERATION.

Passenger revenue,	$35,418 00
TOTAL GROSS EARNINGS FROM OPERATION,	35,418 00

OPERATING EXPENSES.

Maintenance of way and structures:	
Repairs of roadway,	$2,227 61
Repairs of bridges and culverts,	23 50
Repairs of buildings,	317 95
TOTAL,	$2,569 06
Maintenance of equipment:	
Repairs and renewals of locomotives,	$185 90
Repairs and renewals of passenger cars,	411 95
TOTAL,	$597 85
Conducting transportation:	
Wages of enginemen, firemen and roundhousemen,	$3,242 90
Fuel for locomotives,	4,721 43
Water supply for locomotives,	369 60

Conducting transportation — *Concluded.*	
All other supplies for locomotives,	$378 88
Wages of other trainmen,	3,370 45
All other train supplies,	611 19
Wages of switchmen, flagmen and watchmen,	2,043 35
Wages of station agents, clerks and laborers,	2,098 95
Station supplies,	380 13
Injuries to persons,	125 00
TOTAL,	$17,341 88
General expenses:	
Salaries of officers,	$1,350 00
General office expenses and supplies,	328 31
Advertising,	40 00
Legal expenses,	140 00
Stationery and printing,	697 25
TOTAL,	$2,555 56
Recapitulation of expenses:	
Maintenance of way and structures,	$2,569 06
Maintenance of equipment,	597 85
Conducting transportation,	17,341 88
General expenses,	2,555 56
GRAND TOTAL,	$23,064 35

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Grading and masonry,		$5,035 83
Bridging,		1,120 88
Lands, land damages and fences,		2,608 80
Passenger and freight stations, wood sheds and water stations,		7,546 71
TOTAL FOR CONSTRUCTION,		$16,312 22
Passenger, mail and baggage cars (4),		14,738 81
TOTAL FOR EQUIPMENT,		14,738 81
TOTAL CHARGES TO PROPERTY ACCOUNTS,		31,051 03
Property sold (or reduced in valuation on the books) and credited property accounts during the year:		
Superstructure,	$3,389 43	
Total credits to property accounts,		3,389 43
NET ADDITION TO PROPERTY ACCOUNT FOR THE YEAR,		$27,661 60

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$515,446 14	
Cost of equipment,	28,238 81	
Lands,	94,100 00	
TOTAL PERMANENT INVESTMENTS,		$637,784 95
Cash,	$5,779 02	
Bills receivable,	10,000 00	
Due from solvent companies and individuals,	474 00	
TOTAL CASH AND CURRENT ASSETS,		16,253 02
Profit and Loss balance,		636 03
TOTAL,		$654,674 00

Cr.

Capital stock,		$289,600 00
Funded debt,		289,000 00
Current liabilities :		
Loans and bills payable,	$75,000 00	
Audited vouchers and accounts,	1,074 00	
TOTAL CURRENT LIABILITIES,		76,074 00
TOTAL,		$654,674 00

Current Liabilities and Assets.

CURRENT LIABILITIES ACCRUING UP TO AND INCLUDING JUNE 30, 1890.

Loans and bills payable,	$75,000 00
Audited vouchers and accounts,	1,074 00
TOTAL,	$76,074 00

CASH AND CURRENT ASSETS AVAILABLE FOR PAYMENT OF CURRENT LIABILITIES.

Cash,	$5,779 02
Bills receivable,	10,000 00
Due from solvent companies and individuals,	474 00
Balance net current liabilities,	59,820 98
TOTAL,	$76,074 00

Present or Contingent Liabilities not included in the Balance Sheet.

Other liabilities, viz. :	
Unsettled land claims,	$2,000 00
TOTAL (not included in balance sheet),	$2,000 00

CAPITAL STOCK.

Capital stock authorized by charter,	Unlimited.	
Capital stock authorized by votes of company,	$325,000 00	
Capital stock issued (number of shares 2,896) ; amount paid in,		$289,600 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		289,600 00
Total number of stockholders,	50	
Number of stockholders in Massachusetts,	50	
Amount of stock held in Massachusetts,	$289,000 00	

DEBT.

Funded debt, as follows :		
First mortgage bonds due 1906, rate of interest, 5 per cent.,		$289,000 00
Interest paid on same during year,	$12,300 00	

PASSENGER, FREIGHT AND TRAIN MILEAGE.

Passenger traffic :	
Number of passengers carried earning revenue,	608,692
Number of passengers carried one mile,	1,582,598
Average distance carried,	2.6
Total passenger revenue,	$35,418 00
Average amount received from each passenger,	.0581 cents.
Average receipts per passenger per mile (operated 4.7 miles),	.0223 cents.

Passenger traffic — *Concluded.*	
Estimated cost of carrying each passenger one mile,	.0145 cents.
Passenger earnings per mile of road (operated 4.7 miles),	$7,535 75
Passenger earnings per train mile,	.6010 cents.
Passenger and freight:	
Passenger earnings,	$35,418 00
Passenger earnings per mile of road (operated 4.7 miles),	7,535 75
Expense per mile of road (operated 4 7 miles),	4,907 30
Total earnings per mile of road, including mails, express, etc.,	7,535 75
Train mileage:	
Miles run by passenger trains,	58.928
Total mileage trains earning revenue,	58.928
Miles run by construction and other trains,	1,415
Total train mileage,	60,343
Average number of persons employed,	13
Rates of fare:	
Average rate of fare per mile received for local tickets,	3.92 cents.
Average rate of fare per mile received for commutation tickets,	1.92 cents.
Relating to passengers:	
Passengers to Boston (including season),	296,205
Passengers from Boston (including season),	312,487

Description of Road Owned.

Main line of road from East Boston to Winthrop (circuit line),	4.70 miles.
Main line of road in Massachusetts,	4.70 "
Branches owned by company, viz.:	
Crescent Beach to Point of Pines (single track),	2.60 "
Total length of branches owned by company,	2.60 "
Total length of branches owned by company in Massachusetts,	2.60 "
Total road belonging to this company,	7.30 "
Sidings and other tracks not before enumerated,	.50 mile.
Same in Massachusetts,	.50 mile.
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	7.80 miles.
Same in Massachusetts,	7.80 "
Total length of tracks laid with steel rails,	7.30 "
[Weights per yard, 50 pounds.]	
Total miles of road operated by this company,	4.70 "
Total miles of road operated by this company in Massachusetts,	4.70 "
Number of stations in Massachusetts on all roads operated by this company,	9
Number of telegraph offices in same,	3
Number of stations on all roads owned by this company,	9
Same in Massachusetts,	9

Bridges on Roads operated in Massachusetts.

Total length of pile and trestle bridging,	3,984 feet.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	5
Number of crossings of highways over railroad,	5
Number of highway bridges less than 18 feet above track,	5
Height of lowest bridge above the rail,	13 feet.
Number of crossings at which gates or flagman are maintained,	3
Number of crossings at which there are neither signals nor flagman,	2

DESCRIPTION OF EQUIPMENT.

	Number Owned.	Total Number.	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.	Number Equipped with Patent Coupler.
Locomotives:			Tons.	Tons.			
Passenger, . . .	2	2	27	22	2	-	-
TOTAL, . . .	2	2	-	-	2	-	-
Passenger cars, . .	8	8	15	12	8	-	8
Combination cars, . .	1	1	-	12	1	-	1
TOTAL, . . .	9	9	-	-	9	-	9

Number of cars in passenger equipment with 8 wheels fitted with brakes for all wheels, ... 9

NAME AND RESIDENCE OF OFFICERS.

I. P. T. Edmands, *President*, Boston, Mass. C. A. Hammond, *Superintendent*, Lynn, Mass. John A. Fenno, *Treasurer and Clerk of Corporation*, Newton, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

I. P. T. Edmands, Boston, Mass. Matthew Bolles, Boston, Mass. Edward Tyler, Boston, Mass. Jesse Tirrell, Boston, Mass. Arthur D. McClellan, Boston, Mass. Amos F. Breed, Lynn, Mass. David H. Sweetser, Lynn, Mass. Joseph W. Smith, Andover, Mass. Joshua B. Richmond, Boston, Mass.

PROPER ADDRESS OF THE COMPANY.

BOSTON, WINTHROP & SHORE RAILROAD,
350 ATLANTIC AVENUE, BOSTON, MASS.

ISAAC P. T. EDMANDS,
DAVID H. SWEETSER,
EDW. TYLER,
MATTHEW BOLLES,
JESSE TIRRELL,
Directors.
JOHN A. FENNO,
Treasurer.
CHARLES A. HAMMOND,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Sept. 18, 1890. Then personally appeared Isaac P. T. Edmands, David H. Sweetser, Edward Tyler, Matthew Bolles, Jesse Tirrell and Charles A. Hammond, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

JOHN A. FENNO,
Justice of the Peace.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Sept. 18, 1890. Then personally appeared John A. Fenno, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

DAVID H. SWEETSER,
Justice of the Peace.

REPORT

OF THE

CENTRAL MASSACHUSETTS RAILROAD COMPANY,

For the Year ending June 30, 1890.

[This road is leased to and operated by the Boston & Maine Railroad.]

Income Account.

General Exhibit for the Year.

Income from lease of road,		$101,500 00
Total Income,		101,500 00
Salaries and maintenance of organization,	$1,500 00	
Interest on funded debt,	100,000 00	
Total,		101,500 00

General Balance Sheet June 30, 1890.

Dr.

Cost of road,		$9,417,022 33
Total,		$9,417,022 33

Cr.

Capital stock:		
Common,	$3,470,100 00	
Preferred, { stock, $3,923,700 00 scrip, 23,222 33 }	3,946,922 33	
Total Capital Stock,		$7,417,022 33
Funded debt,		2,000,000 00
Total,		$9,417,022 33

Capital Stock.

Capital stock authorized by charter:	Preferred,	$3,950,912 33	
	Common,	3,500,000 00	$7,450,912 33
Capital stock authorized by votes of company:	Preferred,	$3,950,912 33	
	Common,	3,500,000 00	7,450,912 33
Capital stock issued (number of shares: preferred, 39,237; common, 34,701); amount paid in,			7,393,800 00
Capital stock paid in on shares not issued (scrip),			23,222 33
Total Amount paid in as per Books of the Company,			7,417,022 33
Total number of stockholders:	Preferred,	718	
	Common,	773	
Number of stockholders in Massachusetts:	Preferred,	603	
	Common,	637	
Amount of stock held in Massachusetts:	Preferred,	$3,153,090 00	
	Common,	3,147,300 00	

DEBT.

Funded debt, as follows:	
Bonds due Oct. 1, 1906, rate of interest 5 per cent.,	$2,000,000 00
Interest paid on same during year, . . $100,000 00	

DESCRIPTION OF ROAD OWNED.

Main line of road from North Cambridge to Northampton,	98.77 miles.
Main line of road in Massachusetts,	98 77 "
Total road belonging to this company,	98.77 "
Sidings and other tracks not before enumerated,	18.64 "
Same in Massachusetts,	18.64 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	117.41 "
Same in Massachusetts,	117.41 "
Total length of tracks laid with steel rails,	98.77 "
[Weights per yard, 60 pounds.]	

GENERAL INFORMATION.

New Bridges of over Ten Feet Span built within the Year on Roads operated in Massachusetts (including Those replacing Old Structures and Those built where None before existed).

Com'rs No.	To Replace.	Description.	Length of Spans and Number of Tracks.	When and by Whom Built.
4	Wood stringers.	Wood stringers.	13 ft. 4 in., single track.	Boston & Maine R.R.
6	Pile trestle.	Pile trestle.	150 ft., single track.	Boston & Maine R.R.
19	Wood stringers.	Wood stringers.	18 ft., single track.	Boston & Maine R.R.
20	Wood stringers.	Wood stringers.	18 ft., single track.	Boston & Maine R.R.
32	Wood stringers.	Wood stringers.	19 ft. 6 in., single track.	Boston & Maine R.R.
33	Wood stringers.	Wood stringers.	19 ft. 10 in., single track.	Boston & Maine R.R.

Bridges on Roads operated in Massachusetts.

Total length of pile and trestle bridging,	2,625 feet.

Bridges extensively repaired during the year (specify how):

No. 13. Connections between floor beams and trusses reconstructed.
No. 48. Masonry and bearings of trusses repaired.
No. 49. Bearings of trusses repaired.
No. 68. Masonry and approaches repaired.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	90
Number of crossings of higways over railroad,	21
Number of crossings of highways under railroad,	20
Number of highway bridges 18 feet above track,	14
Number of highway bridges less than 18 feet above track,	7
Height of lowest bridge above the rail,	15 ft. 3 in.
Number of crossings at which gates or flagman are maintained,	28
Number of crossings at which there are neither signals nor flagman,	62

Number of railroad crossings at grade (specifying each), .	2
Old Colony Railroad, South Sudbury. Boston & Maine Railroad, Oakdale.	
Number of railroad crossings over other railroads (specifying each), ...	8
Fitchburg Railroad, Hill's Crossing. Fitchburg Railroad, Weston. Fitchburg Railroad, Hudson. Old Colony Railroad, West Berlin. Fitchburg Railroad, Holden. Boston & Albany Railroad, Gilbertville. Boston & Albany Railroad, Bondsville. New London Northern Railroad, Belchertown.	
Number of railroad crossings under other railroads (specifying each), ...	2
Old Colony Railroad, South Sudbury. Boston & Maine Railroad, Oakdale.	

NAME AND RESIDENCE OF OFFICERS.

Samuel N. Aldrich, *President*, Marlborough, Mass. George F. Seymour, *Treasurer and Clerk of Corporation*, Malden, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Samuel N. Aldrich, Marlborough, Mass. Thomas H. Perkins, Boston, Mass. Henry Woods, Boston, Mass. Lyman Hollingsworth,* Cohasset, Mass. J. Edwin Smith, Worcester, Mass. William T. Parker, Boston, Mass. Moses W. Richardson, Boston, Mass. Elisha S. Converse, Malden, Mass. Charles E. Sweet, Newton, Mass. William M. Gaylord, Northampton, Mass. Henry F. Hills, Amherst, Mass. Charles P. Darling, Newton, Mass.

PROPER ADDRESS OF THE COMPANY.

CENTRAL MASSACHUSETTS RAILROAD COMPANY,
BOSTON, MASS.

S. N. ALDRICH,
CHAS. E. SWEET,
MOSES W. RICHARDSON,
HENRY WOODS,
CHARLES P. DARLING,
THOS. H. PERKINS,
Directors.
GEO. F. SEYMOUR,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS. Boston, Sept. 16, 1890. Then personally appeared S. N. Aldrich, Charles E. Sweet, Moses W. Richardson, Henry Woods, Charles P. Darling, Thomas H. Perkins and George F. Seymour, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

CHAS. M. HEMENWAY,
Justice of the Peace.

---

* Since deceased.

REPORT

OF THE

CHATHAM RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Old Colony Railroad Company.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,	$2,934 13	
Miscellaneous income, less expense,	91 34	
TOTAL INCOME,		$3,025 47
Salaries and maintenance of organization,	$141 78	
Interest on funded debt,	1,800 00	
Interest and discount on interest bearing current liabilities,	60 00	
Taxes,	197 58	
TOTAL,		2,199 36
NET INCOME,		826 11
Surplus for year ending June 30, 1890,		826 11
Balance Profit and Loss Account June 30, 1889 (surplus),		340 48
TOTAL PROFIT AND LOSS ACCOUNT (SURPLUS),		1,166 59
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		$1,166 59

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Grading and masonry,	$5 00
Lands, land damages and fences,	212 08
Passenger and freight stations, wood sheds and water-stations,	172 84
TOTAL FOR CONSTRUCTION,	389 92
NET ADDITION TO PROPERTY ACCOUNT FOR THE YEAR,	$389 92

General Balance Sheet June 30, 1890.

Dr.

Cost of road,	$98,632 45	
One store,	678 95	
Total Permanent Investments,		$99,311 40
Cash,	$513 77	
Bills receivable,	811 42	
Total Cash and Current Assets,		1,325 19
Total,		$100,636 59

Cr.

Capital stock,		$68,200 00
Funded debt,		30,000 00
Current liabilities:		
Loans and bills payable,	$970 00	
Accrued interest on funded debt not yet payable,	300 00	
Total Current Liabilities,		1,270 00
Profit and Loss balance,		1,166 59
Total,		$100,636 59

Capital Stock.

Capital stock authorized by charter,	$70,000 00	
Capital stock authorized by votes of company,	85,000 00	
Capital stock issued (number of shares, 682); amount paid in,		$68,200 00
Total Amount paid in as per Books of the Company,		68,200 00
Total number of stockholders,	125	
Number of stockholders in Massachusetts,	115	
Amount of stock held in Massachusetts,	$55,800 00	

Debt.

Funded debt, as follows:		
First mortgage bonds due Nov. 1, 1902, rate of interest 6 per cent.,		$10,000 00
Interest paid on same during year,	$600 00	
First mortgage bonds due Nov. 1, 1907, rate of interest 6 per cent.,		20,000 00
Interest paid on same during year,	$1,200 00	
Total Amount of Funded Debt,		$30,000 00

Description of Road Owned.

Main line of road from Chatham to Harwich,	7.07 miles.
Main line of road in Massachusetts,	7.07 "
Total road belonging to this company,	7.07 "
Sidings and other tracks not before enumerated,	1 mile.
Same in Massachusetts,	1 mile.
Total Length of Track owned, computed as Single Track,	8.07 miles.
Same in Massachusetts,	8.07 "
Total length of tracks laid with steel rails,	7.07 "

[Weights per yard, 50 pounds.]

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade, ...	12
Number of crossings at which there are neither signals nor flagman, ...	12

NAME AND RESIDENCE OF OFFICERS.

Marcellus Eldredge, *President*, Portsmouth, N. H. Charles Bassett, *Treasurer*, South Chatham, Mass. Charles Bassett, *Clerk of Corporation*, South Chatham, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Marcellus Eldredge, Portsmouth, N. H. Osborn Nickerson, Chathamport, Mass. Collins Howes, Chatham, Mass. A. Z. Atkins. North Chatham, Mass. Charles Bassett, South Chatham, Mass.

PROPER ADDRESS OF THE COMPANY.

CHATHAM RAILROAD COMPANY,

CHATHAM, MASS.

MARCELLUS ELDREDGE,
ALVIN Z. ATKINS,
COLLINS HOWES,
Directors.
CHAS. BASSETT,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

BARNSTABLE, ss. Chatham, Aug. 20, 1890. Then personally appeared Marcellus Eldredge, Alvin Z. Atkins, Collins Howes and Charles Bassett, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

GEORGE GODFREY,
Justice of the Peace.

REPORT

OF THE

CHELSEA BEACH RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[The Chelsea Beach Railroad Company having formerly been operated by the Eastern Railroad Company, has now been purchased by the Boston & Maine Railroad as a part of the property of the Eastern Railroad Company, under date of May 8, 1890.]

General Balance Sheet June 30, 1890.

DR.	
Cost of road,	$38,310 52
TOTAL,	$38,310 52
CR.	
Capital stock,	$38,300 00
Profit and Loss balance,	10 52
TOTAL,	$38,310 52

CAPITAL STOCK.

Capital stock authorized by charter,	$10,000 00	
Capital stock authorized by votes of company,	38,300 00	
Capital stock issued (number of shares, 383); amount paid in,		$38,300 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		38,300 00
Total number of stockholders,	1	
Number of stockholders in Massachusetts,	1	
Amount of stock held in Massachusetts,	$38,300 00	

DESCRIPTION OF ROAD OWNED.

Main line of road from Shore Line Junction to Saugus River Junction,	3.346 miles.
Main line of road in Massachusetts,	3.346 "
Double track on main line,	2.486 "
Same in Massachusetts,	2.486 "
Total road belonging to this company,	3.346 "
Sidings and other tracks not before enumerated,	.601 mile.
Same in Massachusetts,	.501 mile.
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	6.333 miles.
Same in Massachusetts,	6.333 "
Total length of tracks laid with steel rails,	6.292 "

[Weights per yard, 58 and 67 pounds.]

General Information. *Highway and Railroad Crossings in Massachusetts on Miles of Road owned.*	
Number of crossings of highways over railroad, ...	1
Number of highway bridges 18 feet above track, ...	1
Number of highway bridges less than 18 feet above track, .	14 ft. 8 in.

Name and Residence of Officers.

Samuel C. Lawrence, *President*, Medford, Mass. Edward Lesley, *Treasurer*, Newburyport, Mass. William A. Lawrence, *Clerk of Corporation*, Medford, Mass.

Name and Residence of Directors last elected.

Samuel C. Lawrence, Medford, Mass. Walter Hunnewell, Wellesley, Mass. George O. Carpenter, Boston, Mass. Arthur Sewall, Bath, Me. Joseph H. Gray, Boston, Mass. Henry D. Hyde, Boston, Mass. William A. Haskell, Boston, Mass. Leopold Morse, Boston, Mass. Charles A. Sinclair, Portsmouth, N. H.

Proper Address of the Company.

CHELSEA BEACH RAILROAD COMPANY,
Causeway Street, Boston, Mass.

WALTER HUNNEWELL,
JOSEPH H. GRAY,
CHAS. A. SINCLAIR,
HENRY D. HYDE,
LEOPOLD MORSE,
Directors.
EDWARD LESLEY,
Treasurer.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Sept. 13, 1890. Then personally appeared Walter Hunnewell, Joseph H. Gray, Chas. A. Sinclair, Henry D. Hyde and Leopold Morse, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

EDWARD LESLEY,
Justice of the Peace.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Sept. 15, 1890. Then personally appeared Edward Lesley and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

C. E. A. BARTLETT,
Justice of the Peace.

REPORT

OF THE

CHESHIRE RAILROAD COMPANY,

For the Year ending June 30, 1890.

Income Account.

General Exhibit for the Year.

Gross earnings from operation,	$645,828 89	
Less operating expenses,	451,621 63	
Income from operation,		$194,207 26
Interest on bonds owned:		
Cheshire Railroad,	$2,550 00	
Boston, Barre & Gardner Railroad,	1,332 00	
Dividends on stock owned:		
Monadnock Railroad,	2,925 00	
Cheshire Railroad,	3,162 00	
Western Union Telegraph Company,	80 00	
Miscellaneous income, less expenses,	21,868 43	
Income from other sources,		31,917 43
Total Income,		226,124 69
Deductions from income:		
Interest on funded debt accrued during year,	$48,000 00	
Interest and discount on interest bearing current liabilities,	1,227 61	
Taxes,	26,310 88	
Rentals:		
Fitchburg Railroad,	51,000 00	
Total deductions from income,		126,538 49
Net Income,		99,586 20
Dividends declared (6 per cent. on preferred stock),		126,000 00
Deficit for Year ending June 30, 1890,		26,413 80
Balance Profit and Loss Account June 30, 1889 (surplus),		48,361 91
Balance Profit and Loss Account June 30, 1890 (surplus),		21,948 11

Earnings from Operation.

Items.	Total Receipts.	Deductions Account of Repayments, etc.	Actual Earnings.
Passenger:			
Passenger revenue,	$186,179 06		
Less repayments:			
Excess fares refunded,	. . .	$153 92	
Other repayments,	. . .	571 95	
Total deductions,	. . .	$725 87	
Total Passenger Revenue,	. . .	. . .	$185,453 19
Mail,	. . .	. . .	9,943 48
Express,	. . .	. . .	7,500 00
Total Passenger Earnings,	. . .	. . .	$202,896 67
Freight:			
Freight revenue,	442,932 22		
Total Freight Revenue,	. . .	. . .	442,932 22
Total Gross Earnings from Operation,	. . .	. . .	$645,828 89

OPERATING EXPENSES.

	Chargeable to Passenger Traffic.	Chargeable to Freight Traffic.	Total.
Maintenance of way and structures:			
Repairs of roadway,	$9,356 25	$25,590 33	$34,946 58
Renewals of rails,	796 05	2,177 29	2,973 34
Renewals of ties,	3,820 96	10,450 75	14,271 71
Repairs of bridges and culverts	1,020 29	2,790 59	3,810 88
Repairs of fences, road-crossings, signs and cattle guards,	169 75	464 28	634 03
Repairs of buildings,	1,642 63	4,492 77	6,135 40
TOTAL,	$16,805 93	$45,966 01	$62,771 94
Maintenance of equipment:			
Repairs and renewals of locomotives,	$7,960 13	$21,771 82	$29,731 95
Repairs and renewals of passenger cars,	1,862 42	5,093 90	6,956 32
Repairs and renewals of freight cars,	5,012 58	13,709 94	18,722 52
Shop, machinery, tools, etc.,	38 19	104 44	142 63
TOTAL,	$14,873 32	$40,680 10	$55,553 42
Conducting transportation:			
Wages of enginemen, firemen and roundhousemen,	$13,252 06	$36,245 80	$49,497 86
Fuel for locomotives,	29,267 29	80,049 14	109,316 43
Water-supply for locomotives,	182 74	499 80	682 54
All other supplies for locomotives,	1,628 85	4,455 07	6,083 92
Wages of other trainmen,	9,558 06	39,676 64	49,234 70
All other train supplies,	2,521 02	2,775 82	5,296 84
Wages of switchmen, flagmen and watchmen,	2,118 57	5,794 50	7,913 07
Expense of telegraph, including train despatchers and operators,	1,093 99	2,992 17	4,086 16
Wages of station agents, clerks and laborers,	7,075 23	19,351 50	26,426 73
Station supplies,	712 69	1,949 29	2,661 98
Car mileage — balances,	1,782 50	38,135 29	39,917 79
Loss and damage,	209 00	245 85	454 85
Injuries to persons,	804 65	2,126 10	2,930 75
TOTAL,	$70,206 65	$234,296 97	$304,503 62
General expenses:			
Salaries of officers,	$2,788 63	$7,627 20	$10,415 83
Salaries of clerks,	1,684 67	4,607 74	6,292 41
Agencies, including salaries and rent,	718 30	1,964 64	2,682 94
Advertising,	222 39	608 25	830 64
Insurance,	396 08	1,083 04	1,479 12
Legal expenses,	180 85	494 65	675 50
Stationery and printing,	925 81	2,532 21	3,458 02
Other general expenses,	792 00	2,166 19	2,958 19
TOTAL,	$7,708 73	$21,083 92	$28,792 65
Recapitulation of expenses:			
Maintenance of way and structures,	$16,805 93	$45,966 01	$62,771 94
Maintenance of equipment,	14,873 32	40,680 10	55,553 42
Conducting transportation,	70,206 65	234,296 97	304,503 62
General expenses,	7,708 73	21,083 92	28,792 65
GRAND TOTAL,	$109,594 63	$342,027 00	$451,621 63
Percentage of operating expenses to earnings,	. . . .	. . . .	73.227

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.	
Superstructure, including rails,	$20,272 52
Passenger and freight stations, wood-sheds and water-stations,	3,700 00
Engineering, agencies, salaries and other expenses during construction,	3,749 27
TOTAL FOR CONSTRUCTION,	$27,721 79

Locomotives (number, 4),	$33,800 00
Passenger, mail and baggage cars (number, 2)*	16,683 00
Freight and other cars,	11,200 00
TOTAL FOR EQUIPMENT,	$61,683 00
TOTAL CHARGES TO PROPERTY ACCOUNTS,	89,404 79

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$2,438,585 69	
Cost of equipment,	397,679 32	
TOTAL PERMANENT INVESTMENTS,		$2,836,265 01
Cash,	$53,152 79	
Bills receivable,	236,309 19	
Due from agents,	8,212 52	
Net traffic balances due from other companies,	9,101 10	
TOTAL CASH AND CURRENT ASSETS,		306,775 60
Other assets:		
Materials and supplies,		99,536 86
TOTAL,		$3,242,577 47

CR.

Capital stock: Common,	$53,300 00	
Capital stock: Preferred,	2,100,000 00	
TOTAL CAPITAL STOCK,		$2,153,300 00
Funded debt,		800,000 00
Current liabilities:		
Loans and bills payable,	$240,000 00	
Net traffic balances due to other companies,	1,865 36	
Dividends not called for,	279 00	
Matured interest coupons unpaid (including coupons due July 1),	25,185 00	
TOTAL CURRENT LIABILITIES,		267,329 36
Profit and Loss balance,		21,948 11
TOTAL,		$3,242,577 47

Current Liabilities and Assets.

CURRENT LIABILITIES ACCRUING UP TO AND INCLUDING JUNE 30, 1890.

Loans and bills payable,	$240,000 00
Net traffic balances due to other companies,	3 62
Dividends not called for,	279 00
Matured interest coupons unpaid (including coupons due July 1),	25,185 00
Balance net current assets,	42,583 01
TOTAL,	$308,050 63

---

* Including $5,635 for steam heating.

CASH AND CURRENT ASSETS AVAILABLE FOR PAYMENT OF CURRENT LIABILITIES

Cash,	$53,152 79
Bills receivable,	236,309 19
Due from agents,	8,212 52
Net traffic balances due from other companies,	10,376 13
TOTAL,	$308,050 63
Materials and supplies on hand (see Balance Sheet),	$99,536 89

CAPITAL STOCK.

Capital stock authorized by charter,	$2,250,000 00	
Capital stock authorized by votes of company,	2,153,300 00	
Capital stock issued (number of shares, 21,533); amount paid in:	Preferred,	$2,100,000 00
	Common,	53,300 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		$2,153,300 00
Total number of stockholders,	515	
Number of stockholders in Massachusetts,	392	
Amount of stock held in Massachusetts,	$1,675,000 00	

DEBT.

Funded debt, as follows:		
Bonds due July 1, 1896, rate of interest 6 per cent.,		$250,000 00
Interest paid on same during year,	$15,000 00	
Bonds due July 1, 1898, rate of interest 6 per cent.,		550,000 00
Interest paid on same during year,	$33,000 00	
TOTAL AMOUNT OF FUNDED DEBT,		$800,000 00

PASSENGER, FREIGHT AND TRAIN MILEAGE.

Passenger traffic:	
Number of passengers carried earning revenue,	217,483
Number of passengers carried one mile,	6,264,710
Average distance carried,	29
Total passenger revenue,	$185,453 19
Average amount received from each passenger,	85 cents.
Average receipts per passenger per mile,	.296 cents.
Passenger earnings per mile of road,	$3,170 26
Freight traffic:	
Number of tons carried of freight earning revenue,	859,384
Number of tons carried one mile,	48,240,063
Average distance haul of one ton,	56 miles.
Total freight revenue,	$442,932 22
Average amount received for each ton of freight,	51.54 cents.
Average receipts per ton per mile,	.918 "
Freight earnings per mile of road,	$6,920 81
Passenger and freight:	
Passenger and freight earnings,	645,828 89
Passenger and freight earnings per mile of road,	10,091 08
Expense per mile of road,	7,056 59
Total earnings per mile of road, including mails, express, etc.,	3,533 20
Train mileage:	
Miles run by passenger trains,	189,363
Miles run by freight trains,	517,939
Total mileage trains earning revenue,	707,302
Miles run by switching trains,	63,055
Miles run by construction and other trains,	23,800
Total train mileage,	794,157

Train mileage — *Concluded.*	
Average number of freight cars in train,	30
Average number of loaded cars in train,	20
Average number of empty cars in train,	10
Average number of tons of freight in train,	300
Average number of tons of freight in each loaded car,	15
Average number of persons employed,	424
Rates of fare:	
Average rate of fare per mile received for local tickets,	2.56 cents.
Average rate of fare per mile received for season tickets,	1.51 "
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies,	3.16 "
Rates of freight:	
Average rate per ton per mile received from freight way-billed local,	4.48 "
Average rate per ton per mile received from freight way-billed jointly with other railroads and transportation companies,	.880 "

Description of Road Owned.

Main line of road from Bellows Falls, Vt., to Ashburnham Junction, Mass.,	53.62 miles.
Main line of road in Massachusetts,	10.81 "
Main line of road in New Hampshire,	42.81 "
Total road belonging to this company,	53.62 "
Sidings and other tracks not before enumerated,	20.32 "
Same in Massachusetts,	3.39 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	73.94 "
Same in Massachusetts,	14.20 "
Total length of tracks laid with steel rails,	56.62 "
[Weights per yard, 60 and 72 pounds.]	

Roads and Branches belonging to Other Companies, operated by this Company under Lease or Contract, the Operations of which are included in this Return.

Fitchburg Railroad, Ashburnham Junction to Fitchburg,	10 39 miles.
Total length of above roads,	10.39 "
Total length of above roads in Massachusetts,	10.39 "
Total miles of road operated by this company,	64. "
Total miles of road operated by this company in Massachusetts,	21.20 "
Number of stations in Massachusetts on all roads operated by this company,	7
Number of telegraph offices in same,	7
Number of stations on all roads owned by this company,	16
Same in Massachusetts,	3

General Information.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	9
Number of crossings at which gates or flagman are maintained,	2
Number of crossings at which electric signals are maintained,	2
Number of crossings at which there are neither signals nor flagman,	7
Number of railroad crossings at grade (specifying each), Ware River Railroad.	1

Description of Equipment.

	Number Owned.	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.	Number Equipped with Patent Coupler.
Locomotives:		Tons.	Tons.			
Passenger,	7	42	33	7	1	-
Freight,	24	48	35	1	-	-
Other,	3	30	28	-	-	-
TOTAL,	34	-	-	-	-	-
Passenger cars,	27	20	18	25	-	27
Combination cars,	2	17	15	2	-	2
Baggage, mail and express cars,	11	-	13½	11	-	11
TOTAL,	40	-	-	-	-	-
Box freight cars (basis of 8 wheels),	232	12	9½	-	-	-
Stock freight cars (basis of 8 wheels),	25	-	-	-	-	-
Coal freight cars (basis of 8 wheels),	4	-	-	-	-	-
Flat freight cars (basis of 8 wheels),	179	-	7½	-	-	-
Other freight cars (basis of 8 wheels),	66	-	-	-	-	-
TOTAL,	506	-	-	-	-	-
Cars in company's service:						
Gravel cars,	20	-	-	-	-	-
Derrick cars,	3	-	-	-	-	-
Caboose cars,	15	-	-	-	-	-
TOTAL,	38	-	-	-	-	-

Number of cars in passenger equipment with 8 wheels fitted with brakes for all wheels, ... 40

List of Accidents.

	FROM CAUSES BEYOND THEIR OWN CONTROL (IN MASSACHUSETTS).		FROM THEIR OWN MISCONDUCT OR CARELESSNESS (IN MASSACHUSETTS).		TOTAL IN MASSACHUSETTS.		TOTAL ON WHOLE ROAD OPERATED.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	-	-	-	-	-	-	-
Employees,	-	-	1	1	1	1	8	2
Others,	-	-	-	-	-	-	2	2

Statement of Each Accident in Massachusetts.

December 28, 1889. — John Vaugn, brakeman, killed at Fitchburg. while switching cars.

April 16, 1890. — Geo. A. Howard, baggagemaster, foot injured by falling from car.

Name and Residence of Officers.

William A. Russell, *President*, Lawrence, Mass. E. C. Thayer, *Vice-President*, Keene, N. H. R. Stewart, *General Manager*, Keene, N. H. Batchelder & Faulkner, *General Counsel*, Keene, N. H. I. W. Dodge, *General Freight Agent*, Keene, N. H. F. H. Kingsbury, *General Passenger Agent and Treasurer*, Keene, N. H. R. Stewart, *Clerk of Corporation*, Keene, N. H.

Name and Residence of Directors last elected.

Hon. Wm. A. Russell, Lawrence, Mass. Edward C. Thayer, Keene, N. H. George W. Russell, Lawrence, Mass. William H. Hill, Brookline, Mass. Hales W. Suter, Boston, Mass. A. N. Burbank, Boston, Mass. De Los C. Barr, Keene, N. H.

Proper Address of the Company.

CHESHIRE RAILROAD COMPANY,
Keene, N. H.

WM. A. RUSSELL,
EDWD. C. THAYER,
WILLIAM H. HILL,
A. N. BURBANK,
Directors.
F. H. KINGSBURY,
Treasurer.
R. STEWART,
Superintendent.

Commonwealth of Massachusetts.

Suffolk, ss. October 10, 1890. Then personally appeared Wm. A. Russell, Edward C. Thayer, W. H. Hill, A. N. Burbank, F. H. Kingsbury and R. Stewart, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

GEORGE O. G. COALE,
Notary Public.

REPORT

OF THE

CONNECTICUT RIVER RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

INCOME ACCOUNT.

General Exhibit for the Year.

Gross earnings from operation,*	$1,099,738 48	
Less operating expenses,	831,414 82	
Income from operation,		$268,323 66
Dividends on stock owned:		
Ashuelot Railroad Company,	$8,400 00	
Vermont Valley Railroad Company,	6,000 00	
Rentals for tracks, yards and terminals,	4,375 00	
Miscellaneous income, less expenses:		
Interest,	12,778 86	
Rents,	6,834 46	
Balance due Ashuelot Railroad Company Feb. 7, 1890,	20,662 94	
Income from other sources,		59,051 26
TOTAL INCOME,		$327,374 92
Deductions from income:		
Interest and discount on interest-bearing current liabilities,	$25,655 30	
Taxes,	85,132 69	
Rentals:		
Ashuelot Railroad Company,	12,613 76	
Fitchburg Railroad Company,	564 02	
Rentals for tracks, yards and terminals,	7,009 15	
Total deductions from income,		120,974 92
NET INCOME,		$206,400 00
Dividends declared, 8 per cent. on common stock,	$206,400 00	
TOTAL,		206,400 00
Balance Profit and Loss Account June 30, 1889 (surplus),	$1,000,000 00	
Add: sundry vouchers,	55 08	
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		1,000,055 08

---

* Includes $149,549.48 charged from construction account, and $39,977.36 charged from equipment account.

Earnings from Operation.

Items.	Total Receipts.	Deductions Account of Repayments, etc.	Actual Earnings.
Passenger:			
Passenger revenue,	$464,148 91		
Less repayments:			
Tickets redeemed,	. . .	$641 51	
Excess fares refunded,	. . .	4,034 20	
Other repayments,	. . .	2,245 75	
Total deductions,	. . .	$6,921 46	
Total Passenger Revenue,	. . .	. . .	$457,227 45
Mail,	. . .	. . .	20,691 68
Express,	. . .	. . .	18,500 00
Total Passenger Earnings,	. . .	. . .	$496,419 13
Freight:			
Freight revenue,	$605,973 45		
Less repayments:			
Overcharge to shippers,	. . .	$3,143 21	
Other repayments,	. . .	9,877 24	
Total deductions,	. . .	$13,020 45	
Total Freight Revenue,	. . .	. . .	592,953 00
Total Passenger and Freight Earnings,	. . .	. . .	$1,089,372 13
Other earnings from operation:			
Switching charges, balance,	. . .	. . .	10,366 35
Total Gross Earnings from Operation,	. . .	. . .	$1,099,738 48

Operating Expenses.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures:			
Repairs of roadway,	$119,610 69	$43,903 58	$163,514 27
Renewals of rails,	18,772 99	6,890 70	25,663 69
Renewals of ties,	20,922 17	7,679 56	28,601 73
Repairs of bridges and culverts,	52,095 43	19,121 84	71,217 27
Repairs of fences, road-crossings, signs and cattle-guards,	3,102 71	1,138 86	4,241 57
Repairs of buildings,	31,255 52	11,472 47	42,728 00
Total,	$245,759 52	$90,207 01	$335,966 53
Maintenance of equipment:			
Repairs and renewals of locomotives,	$42,173 56	$15,479 98	$57,653 54
Repairs and renewals of passenger cars,	61,933 92	–	61,933 92
Repairs and renewals of freight cars,	–	32,215 43	32,215 43
Total,	$104,107 48	$47,695 41	$151,802 89
Conducting transportation:			
Wages of enginemen, firemen and roundhouse-men,	$35,783 86	$13,134 61	$48,918 47
Fuel for locomotives,	52,914 61	19,422 52	72,337 13
Water supply for locomotives,	1,410 43	517 70	1,928 13
All other supplies for locomotives,	3,596 47	1,320 10	4,916 57
Wages of other trainmen,	28,855 93	31,172 46	60,028 39
All other train supplies,	779 49	677 50	1,456 99
Expense of telegraph, including train despatchers and operators,	373 71	137 17	510 88

---

* The items in these columns which are not directly chargeable to either passenger or freight business are to be apportioned between the two on the basis of train mileage as prescribed by the Interstate Commerce Commission. The result, therefore, is not accurate, but only approximate, and this fact must be borne in mind in drawing conclusions therefrom.

OPERATING EXPENSES — Concluded.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Conducting transportation — *Concluded.*			
Wages of station agents, clerks and laborers, .	$72,260 20	$26,523 39	$98,783 59
Station supplies, ...	3,621 66	1,329 35	4,951 01
Car mileage, balances (credit), ...	–	4,712 19	4,712 19
Loss and damage, ...	1,341 23	492 30	1,833 53
Injuries to persons, ...	3,120 69	1,145 46	4,266 15
TOTAL, ...	$204,058 28	$91,160 37	$295,218 65
General expenses:			
Salaries of officers and clerks, ...	$23,549 21	$8,643 83	$32,193 04
Agencies, including salaries and rent, . .	1,191 80	437 46	1,629 26
Insurance, ...	843 40	309 58	1,152 98
Legal expenses, ...	986 30	362 03	1,348 33
Stationery and printing, ...	5,390 04	1,978 43	7,368 47
Other general expenses, ...	3,463 41	1,271 26	4,734 67
TOTAL, ...	$35,424 16	$13,002 59	$48,426 75
Recapitulation of expenses:			
Maintenance of way and structures, . .	$245,759 52	$90,207 01	$335,966 53
Maintenance of equipment, ...	104,107 48	47,695 41	151,802 89
Conducting transportation, ...	204,058 28	91,160 37	295,218 65
General expenses, ...	35,424 16	13,002 59	48,426 75
GRAND TOTAL, ...	$589,394 44	$242,065 38	$831,414 82
Percentage of operating expenses to earnings, .	–	–	75.6

* See note on page 87.

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Grading and masonry, ...		$17,833 14
Bridging, ...		67,048 12
Lands, land damages and fences, ...		8,082 10
Passenger and freight stations, wood-sheds and water-stations, ...		3,780 27
Engine-houses, car-sheds and turn-tables, ...		4,611 90
Purchase of other roads,*		210,000 00
TOTAL FOR CONSTRUCTION, ...		$311,355 53
Locomotives (number, 2), ...		12,997 50
Passenger, mail and baggage cars (number, 6), . . .		26,979 86
TOTAL FOR EQUIPMENT, ...		$39,977 36
TOTAL CHARGES TO PROPERTY ACCOUNTS, . . .		35,332 89
Property sold (or reduced in valuation on the books) and credited property accounts during the year: †		
From No. 1, ...	$31,373 79	
From No. 2, ...	67,048 12	
From No. 4, ...	40,267 24	
From No. 5, ...	3,780 27	
From No. 6, ...	7,080 06	
From No. 11, ...	32,995 98	
From No. 13, ...	27,269 86	
Total credits to property accounts, . .		209,815 32
NET ADDITION TO PROPERTY ACCOUNT FOR THE YEAR,†		$141,517 57

---

* The Ashuelot Railroad was consolidated with the Connecticut River Railroad on Feb. 7, 1890.

† Less Ashuelot R.R. Company stock, $210,000, carried in last year's return as an investment.

General Balance Sheet, June 30, 1890.

DR.

Cost of road,	$3,133,561 43	
Cost of equipment,	426,527 66	
Stock of Vermont Valley Railroad, 1871,	99,610 00	
TOTAL PERMANENT INVESTMENTS,		$3,659,699 09
Cash,	$42,047 38	
Bills receivable,	137,203 93	
Due from agents,	66,892 04	
Due from solvent companies and individuals,	370,356 06	
TOTAL CASH AND CURRENT ASSETS,		616,499 41
Materials and supplies,		138,976 81
TOTAL,		$4,415,175 31

CR.

Capital stock,		$2,580,000 00
Current liabilities:		
Loans and bills payable,	$627,300 00	
Audited vouchers and accounts,	147,740 65	
Net traffic balances due to other companies,	8,445 58	
Dividends not called for,	51,634 00	
TOTAL CURRENT LIABILITIES,		835,120 23
Profit and Loss balance,		1,000,055 08
TOTAL,		$4,415,175 31

Current Liabilities and Assets.

CURRENT LIABILITIES ACCRUING UP TO AND INCLUDING JUNE 30, 1890.

Loans and bills payable,	$627,300 00
Audited vouchers and accounts,	147,740 65
Net traffic balances due to other companies,	8,445 58
Dividends not called for,	51,634 00
TOTAL,	$835,120 23

CASH AND CURRENT ASSETS AVAILABLE FOR PAYMENT OF CURRENT LIABILITIES.

Cash,	$42,047 38
Bills receivable,	137,203 93
Due from agents,	66,892 04
Due from solvent companies and individuals,	370,356 06
BALANCE NET CURRENT LIABILITIES,	218,620 82
TOTAL,	$835,120 23
Materials and supplies on hand (see Balance Sheet),	$138,976 81

Present or Contingent Liabilities not included in the Balance Sheet.

Bonds guaranteed by this company or a lien on its road, viz.:
Interest guaranteed on $80,000 of stock of the Vermont Valley Railroad Company of 1871.

CAPITAL STOCK.

Capital stock authorized by charter,	$2,670,000 00	
Capital stock authorized by votes of company,	2,580,000 00	
Capital stock issued (number of shares, 25,800); amount paid in,		$2,580,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		2,580,000 00
Total number of stockholders,	989	
Number of stockholders in Massachusetts,	775	
Amount of stock held in Massachusetts,	$2,012,300 00	

PASSENGER, FREIGHT AND TRAIN MILEAGE.

Passenger traffic:	
Number of passengers carried earning revenue,	1,870,734
Number of passengers carried one mile,	19,096,563
Average distance carried,	10.21
Total passenger revenue,	$457,227 45
Average amount received from each passenger,	24.4 cents.
Average receipts per passenger per mile,	.024 “
Estimated cost of carrying each passenger one mile,*	.03086 “
Passenger earnings per mile of road,	$5,726.079
Passenger earnings per train mile,	1.11989
Freight traffic:	
Number of tons carried of freight earning revenue,	863,380
Number of tons carried one mile,	21,581,814
Average distance haul of one ton,	25
Total freight revenue,	$592,953 00
Average amount received for each ton of freight,	.69
Average receipts per ton per mile,	.0275 cents.
Estimated cost of carrying one ton one mile,*	.01121
Freight earnings per mile of road,	$7,425.836
Freight earnings per train mile,	3.956
Passenger and freight:	
Passenger and freight earnings,	$1,050,180 45
Passenger and freight earnings per mile of road,	13,151.915
Expense per mile of road,	10,412.208
Total earnings per mile of road, including mails, express, etc.,	13,772.554
Train mileage:	
Miles run by passenger trains,	408,275
Miles run by freight trains,	149,869
Total mileage trains earning revenue,	558,144
Miles run by switching trains,	183,139
Miles run by construction and other trains,	18,480
Total train mileage,	759,763
Average number of loaded cars in train,	37
Average number of tons of freight in train,	460
Average number of tons of freight in each loaded car,	12.4
Average number of persons employed,	687
Rates of fare:	
Average rate of fare per mile received for local tickets,	.0228 cents.
Average rate of fare per mile received for mileage tickets,	.0206 “
Average rate of fare per mile received for season tickets,	.0095 “
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies,	.0268 “
Rates of freight:	
Average rate per ton per mile received from freight waybilled local,	.0424 “
Average rate per ton per mile received from freight waybilled jointly with other railroads and transportation companies,	.0249 “

---

* See note under “Operating Expenses.”

DESCRIPTION OF ROAD OWNED.

Main line of road from Springfield, Mass., to Keene, N. H.,	74	miles.
Main line of road in Massachusetts,	50.075	"
Main line of road in Vermont,	.71	"
Main line of road in New Hampshire,	23.2142	"
Double track on main line,	36	"
Same in Massachusetts,	36	"
Branches owned by company, viz.:		
Chicopee to Chicopee Falls (single track),	2 35	"
Mount Tom to Easthampton (single track),	3.50	"
Total length of branches owned by company,	5.85	"
Total length of branches owned by company in Massachusetts,	5.85	"
Total road belonging to this company,	79.85	"
Sidings and other tracks not before enumerated,	51.43	"
Same in Massachusetts,	46 16	"
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	167.28	"
Same in Massachusetts,	138 0857	"
Total length of tracks laid with steel rails,	157 03	"
Total miles of road operated by this company,	79.85	"
Total miles of road operated by this company in Massachusetts,	55.9257	"
Number of stations in Massachusetts on all roads operated by this company,	19	
Number of telegraph offices in same,	11	
Number of stations on all roads owned by this company,	20	
Same in Massachusetts,	19	
[Weights per yard, 56, 66 and 72 pounds.]		

GENERAL INFORMATION.

New Bridges of over Ten Feet Span built within the Year on Roads operated in Massachusetts (including Those replacing Old Structures and Those built where None before existed).

Location.	To Replace.	Description.	Length of Spans and Number of Tracks.	When and by Whom Built.
Chicopee,	Wooden.	Riveted lattice.	1 span, 2 tracks.	Boston Bridge Co., 1889.
Holyoke,	Grade crossing.	Plate girder.	3 spans, 8 tracks.	

Bridges on Roads operated in Massachusetts.

Total amount expended for repairs and renewals of bridges,		$71,217 27
For repairs,	$4,169 15	
For renewals,	67,048 12	

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	49
Number of crossings of highways over railroad,	6
Number of crossings of highways under railroad,	6
Number of highway bridges 18 feet above track,	6
Height of lowest bridge above the rail,	18
Number of crossings at which gates or flagman are maintained,	5
Number of crossings at which electric signals are maintained,	7
Number of crossings at which there are neither signals nor flagman,	37
Number of railroad crossings over other railroads (specifying each,	3
One at Holyoke. One at Deerfield. One at Cheapside.	

DESCRIPTION OF EQUIPMENT.

	Number Owned.	Total Number.	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.	Number Equipped with Patent Coupler.
Locomotives:							
Passenger, . . .	15	15	83,940	64,202	15	6	-
Freight, . . .	18	18	85,350	77,800	1	9	-
Other, ...	9	9	81,070	51,285	-	7	-
TOTAL, . . .	42	42	-	-	16	22	-
Passenger cars, . .	44	44	51,400	42,956	44	-	44
Combination cars, . .	17	17	51,400	42,956	17	-	17
Baggage, mail and express cars, . . .	3	3	44,443	44,443	3	-	3
TOTAL, . . .	64	64	-	-	64	-	64
Box freight cars (basis of 8 wheels), . . .	266	266	21,000	21,000	-	-	-
Stock freight cars (basis of 8 wheels), . .	3	3	21,000	21,000	-	-	-
Flat freight cars (basis of 8 wheels), . . .	281	281	17,000	17,000	-	-	-
Other freight cars (basis of 8 wheels), . .	2	2	-	-	-	-	-
TOTAL, . . .	552	552	-	-	-	-	-
Cars in company's service:							
Gravel cars, . .	44	44	-	-	-	-	-
Caboose cars, . . .	5	5	-	-	-	-	-
Other road cars, . .	1	1	-	-	-	-	-
TOTAL, . . .	50	50	-	-	-	-	-

Number of cars in passenger equipment with 8 wheels fitted with brakes for all wheels, ... 64

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL (IN MASSACHUSETTS).		FROM THEIR OWN MISCONDUCT OR CARELESSNESS (IN MASSACHUSETTS).		TOTAL IN MASSACHUSETTS.		TOTAL ON WHOLE ROAD OPERATED.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, .	-	-	3	1	3	1	3	1
Employees, .	-	-	8	4	8	4	8	4
Others, . .	-	-	-	-	-	-	-	-

ACCIDENTS, JULY 1, 1889, to JUNE 30, 1890.

July 15, 1889. — Fred J. Roberts, switchman in Springfield yard, while riding on the foot-board on rear of tender of switch engine, was caught between the tender and platform car standing on side track, receiving injuries from which he died same day.

July 17. — Napoleon Gagnault of Chicopee, ten years of age, while playing about the freight yard at Chicopee Junction with companions, attempted to run across the track in front of No. 22 train. He was struck by the engine, receiving injuries from which he died the same night.

September 10. — No. 1 train struck a team containing two men, Frank Brady and Daniel O'Connor, on the Chicopee Street highway crossing. The wagon was demolished, Brady received a broken collar bone; and O'Connor was some bruised, but not seriously. Both men saw the approaching train, and O'Connor says he warned Brady that he would not have time to cross ahead of the train; but Brady insisted that he would, and made the attempt. The usual warning signals were given from the locomotive, and the track circuit electric bell at the crossing was ringing.

November 1. — William Newport (colored) was found dead between the two main tracks south of Smith's Ferry, by No. 35 train. No marks were found on the engine of this train, and no evidence was found afterward, showing how the man met his death.

November 30. — No. 9 train ran over and killed Amasa Slocum of Providence, R. I , two miles north of Holyoke station. He was lying between the rails of the up main track, and made no attempt to get off. The whistle was sounded, brakes applied and engine reversed, but it was impossible to stop before reaching him. The head was severed from the body.

December 17. — The mangled remains of Francis McCauley of Springfield were found between the main tracks, about half-way between Chicopee and Brightwood, by No. 6 train. It is not known what train killed him.

December 23. — Henry Hanna, brakeman on switch train in Holyoke yard, had one leg cut off. The switch engine was pushing two cars which were to be switched onto different tracks. Hanna pulled the pin between the engine and the two cars; he then jumped from the running-board on front of the engine, and ran ahead to pull the pin between the two cars; and, while in between the two cars, walking with them, he stumbled and fell under the wheels.

Feb. 7, 1890. — John Cleary, aged seventy, while walking on the track a mile above Holyoke station, was struck and killed by a special passenger train.

February 22. — Wallace Harrison of Chicopee Falls lost one foot. Was a passenger on the 11.05 P.M. train from Springfield, and was safely delivered on the platform at Chicopee Falls. He afterward crossed the track to urinate, and while returning was struck and knocked down by a car which was being switched into the station.

April 5. — David Davis, no stated residence, attempted to board a moving freight train north of the "Arch" at Greenfield station, fell under the wheels, and one leg was cut off.

April 22. — No. 40 train struck a team driven by John Burns of Deerfield, on an unused farm crossing south of Deerfield station, killing the horses, and injuring Burns so that he died the same day at nine P.M.

May 10. — Martin O. Donoghue of Springfield, employed at the Talcott Axle Works at Brightwood, walking on the track between the latter place and Springfield, was struck and killed by a switch engine.

June 3. — Matthew Doyle of Holyoke, thirteen years of age, crossing the track near the Holyoke steam saw mill, was struck and killed by No. 24 train.

June 9. — Wrecking train returning from wreck at Deerfield, when near Smiths' Ferry station, broken car was derailed. Patrick Falvey, laborer on gravel train, riding home on wrecking train to Holyoke, jumped from a platform car and struck on his abdomen across a pile of tiles, receiving injuries from which he died at eleven A.M. the next day.

June 21. — Chas. Connell, brakeman on switch train in Holyoke yard, attempted to step onto foot-board on front of moving engine, missed his footing, fell under the wheels and was killed.

Name and Residence of Officers.

N. A. Leonard, *President*, Springfield, Mass. W. H. Wilson, *Auditor*, Springfield, Mass. J. Mulligan, *Superintendent*, Springfield, Mass. H. E. Howard, *General Freight Agent*, Springfield, Mass. E. C. Watson, *General Ticket Agent*, Springfield, Mass. Seth Hunt, *Treasurer and Clerk of Corporation*, Springfield, Mass.

Name and Residence of Directors last elected.

N. A. Leonard, Springfield, Mass. Oscar Edwards, Northampton, Mass. F. H. Harris, Springfield, Mass. Charles S. Sargent, Brookline, Mass. W. R. Cone,* Hartford, Conn. A. B. Harris, Boston, Mass. Frederick Billings, Woodstock, Vt. Aug. T. Perkins, Barnstable, Mass. William Whiting, Holyoke, Mass. E. F. Lane, Keene, N. H.

* Died Jan. 10, 1890.

Proper Address of the Company.

CONNECTICUT RIVER RAILROAD COMPANY,
Springfield, Hampden County, Mass.

N. A. LEONARD,
A. B. HARRIS,
OSCAR EDWARDS,
F. H. HARRIS,
WM. WHITING,
Directors.
SETH HUNT,
Treasurer.
J. MULLIGAN,
Superintendent.

Commonwealth of Massachusetts.

Hampden, ss. Springfield, Sept. 3, 1890. Then personally appeared N. A. Leonard, A. B. Harris, Oscar Edwards, F. H. Harris, William Whiting, Seth Hunt and J. Mulligan, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

GEORGE E. FRINK,
Justice of the Peace.

REPORT

OF THE

DANVERS RAILROAD,

For the Year ending June 30, 1890.

[This road is leased to and operated by the Boston & Maine Railroad. Its operations are included in the report of that road, its business being so intimately connected that separate accounts have not been kept.]

General Balance Sheet, June 30, 1890.

Dr.	
Cost of road,	$244,456 02
Total,	$244,456 02

Cr.	
Capital stock,	$67,500 00
Funded debt,	150,000 00
Audited vouchers and accounts,	26,956 02
Total,	$244,456 02

Capital Stock.

Capital stock authorized by charter,	$100,000 00	
Capital stock authorized by votes of company,	100,000 00	
Capital stock issued (number of shares, 583); amount paid in,		$58,300 00
Capital stock paid in on shares not issued,		9,200 00
Total Amount paid in as per Books of the Co.,		67,500 00
Total number of stockholders,	48	
Number of stockholders in Massachusetts,	46	
Amount of stock held in Massachusetts,	$45,500 00	

Description of Road Owned.

Main line of road from Wakefield Junction to Danvers,	9.259 miles.
Main line of road in Massachusetts,	9.259 "
Total road belonging to this company,	9.259 "
Sidings and other tracks not before enumerated,	1.338 "
Same in Massachusetts,	1.338 "
Total Length of Track owned, computed as Single Track,	10.597 "
Same in Massachusetts,	10.597 "
Total length of tracks laid with steel rails,	10.158 "

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade, ...	20
Number of crossings of highways over railroad, . . .	1
Number of crossings of highways under railroad, . . .	2
Number of highway bridges less than 18 feet above track, .	1
Height of lowest bridge above the rail, ...	15 feet.
Number of crossings at which gates or flagman are maintained,	8
Number of crossings at which there are neither signals nor flagman, ...	12
Number of railroad crossings at grade (specifying each), .	2
Southern division Boston & Maine railroad at West Peabody.	
Eastern division Boston & Maine railroad at Danvers.	

NAME AND RESIDENCE OF OFFICERS.

George C. Lord, *President*, Newton, Mass. James T. Furber, *General Manager*, Lawrence, Mass. William J. Hobbs, *Auditor*, Malden, Mass. William Merritt, *Superintendent*, Boston, Mass. W. F. Berry, *General Freight Agent*, Winchester, Mass. D. J. Flanders, *General Passenger Agent*, Malden, Mass. Amos Blanchard, *Treasurer*, Andover, Mass. Sigourney Butler, *Clerk of Corporation*, Quincy, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

George C. Lord, Newton, Mass. Amos Paul, South Newmarket, N. H. William S. Stevens, Dover, N. H. Joseph S. Ricker, Deering, Me. Samuel C. Lawrence, Medford, Mass. Frank Jones, Portsmouth, N. H.

PROPER ADDRESS OF THE COMPANY.

DANVERS RAILROAD,
BOSTON, MASS.

GEORGE C. LORD,
FRANK JONES,
WM. S. STEVENS,
JOSEPH S. RICKER,
Directors.
HERBERT E. FISHER,
Assistant Treasurer.
JAMES T. FURBER,
General Manager.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS. BOSTON, Aug. 26, 1890. Then personally appeared George C. Lord, Frank Jones, William S. Stevens, Joseph S. Ricker, James T. Furber and Herbert E. Fisher, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

SIGOURNEY BUTLER,
Justice of the Peace.

REPORT

OF THE

EASTERN RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This company has sold its road, franchises and property to the Boston & Maine Railroad, under an agreement ratified by the stockholders, dated May 8, 1890.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,			$1,437,011 02
TOTAL INCOME,			1,437,011 02
Salaries and maintenance of organization,		$24,623 77	
Interest on funded debt,		561,319 22	
Interest and discount on interest-bearing current liabilities,		36,092 66	
TOTAL,			622,035 65
NET INCOME,			814,975 37
Dividends declared (6 per cent. on 31,496 shares preferred stock),		$188,976 00	
Dividends declared (6 per cent. on 49,976 shares common stock),		299,856 00	
Dividends declared (3¼ per cent. on 49,976 shares common stock),		162,422 00	
			651,254 00
Surplus for year ending June 30, 1890,			163,721 37
Balance Profit and Loss Account June 30, 1889 (surplus),		$919,179 41	
Deduct:			
Six per cent. dividend on P., G. F. & Con. R.R. (Dec. 16, 1889),	$35,940 00		
Three and one-fourth per cent. dividend on P., G. F. & Con. R.R. (May 15, 1890),	19,467 50		
		55,407 50	
			863,771 91
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),			$1,027,493 28

NAME AND RESIDENCE OF OFFICERS.

Samuel C. Lawrence, *President*, Medford, Mass. Edward Lesley, *Treasurer*, Newburyport, Mass. William B. Lawrence, *Clerk of Corporation*, Medford, Mass.

Name and Residence of Directors last elected.

Samuel C. Lawrence, Medford, Mass. Walter Hunnewell, Wellesley, Mass. Arthur Sewall, Bath, Me. Joseph H. Gray, Boston, Mass. George O. Carpenter, Boston, Mass. Henry D. Hyde, Boston, Mass. William A. Haskell, Boston, Mass. Leopold Morse, Boston, Mass. Charles A. Sinclair, Portsmouth, N. H.

Proper Address of the Company.

EASTERN RAILROAD COMPANY,
Causeway St., Boston, Mass.

WALTER HUNNEWELL,
JOSEPH H. GRAY,
HENRY D. HYDE,
CHAS. A. SINCLAIR,
LEOPOLD MORSE,
Directors.
EDWARD LESLEY,
Treasurer.

Commonwealth of Massachusetts.

Suffolk ss. Boston, Sept. 13, 1890. Then personally appeared Walter Hunnewell, Joseph H. Gray, Henry D. Hyde, Chas. A. Sinclair and Leopold Morse, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

EDWARD LESLEY,
Justice of the Peace.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Sept. 15, 1890. Then personally appeared Edward Lesley, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

C. E. A. BARTLETT,
Justice of the Peace.

Boston, Oct. 10, 1890.

Gentlemen: — We hand you, annexed, report of the outstanding certificates of indebtedness of the Eastern Railroad Company, and enclose herewith, report of the condition of the sinking fund of said company, Sept. 30, 1890, as required by sections 10 and 14 of chapter 236 of the Acts of 1876.

Respectfully yours,

WILLARD P. PHILLIPS,
CHARLES R. CODMAN,
CHAS. U. COTTING,
Trustees Eastern Railroad.

To the Honorable the Railroad Commissioners of Massachusetts.

To the Railroad Commissioners of Massachusetts.

We hereby certify that the mortgage certificates of indebtedness of the Eastern Railroad Company issued by us, and outstanding on the thirtieth day of September, 1890, were as follows: —

Certificates payable in sterling money of Great Britain, . .	£359,400
Certificates payable in gold dollars of the United States, .	$7,460,500 00
Scrip certificates, ...	21 cents.

There having been no change since last report.

WILLARD P. PHILLIPS,
CHARLES R. CODMAN,
CHAS. U. COTTING,
Trustees Eastern Railroad.

Boston, Oct. 10, 1890.

REPORT OF THE CONDITION OF THE SINKING FUND OF THE EASTERN RAILROAD COMPANY ON THE THIRTIETH DAY OF SEPTEMBER, 1890.

Amount on hand as per report of Sept. 30, 1889, ...		$1,281 40
1890.		
Sept. 1.	Payment to sinking fund for year ending Sept. 1, 1890,	100,000 00
Sept. 30.	Income for the year, interest on deposit at bank, .	243 18
		$101,524 58

WILLARD P. PHILLIPS,
CHARLES R. CODMAN,
CHAS. U. COTTING,
Trustees Eastern Railroad.

Boston, Oct. 10, 1890.

REPORT

OF THE

FALL RIVER RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Old Colony Railroad Company.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,	$15,548 79	
TOTAL INCOME,		$15,548 79
Interest on funded debt,	$10,000 00	
Taxes,	424 32	
TOTAL,		10,424 32
Surplus for year ending June 30, 1890,		5,124 47
Balance Profit and Loss Account June 30, 1889 (deficit),		9,976 58
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (DEFICIT),		4,852 11

General Balance Sheet, June 30, 1890.

DR.

Cost of road,	$443,832 29
Due from solvent companies and individuals,	411 84
Profit and Loss balance,	4,852 11
TOTAL,	$449,096 24

CR.

Capital stock,	$200,000 00
Funded debt,	200,000 00
Loans and bills payable,	49,096 24
TOTAL,	$449,096 24

CAPITAL STOCK.

Capital stock authorized by charter,	$200,000 00	
Capital stock authorized by votes of company,	200,000 00	
Capital stock issued (number of shares, 2,000); amount paid in,		$200,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		200,000 00
Total number of stockholders,	24	
Number of stockholders in Massachusetts,	22	
Amount of stock held in Massachusetts,	$194,900 00	

DEBT.

Funded debt as follows:	
First mortgage bonds due April 1, 1895, rate of interest, 5 per cent, ...	$200,000 00
Interest paid on same during year, . . $10,000 00	

DESCRIPTION OF ROAD OWNED.

Main line of road from Fall River to New Bedford, Mass., .	12.25 miles.
Main line of road in Massachusetts, ...	12.25 "
Total length of road belonging to this company, . . .	12.25 "
Sidings and other tracks not before enumerated, . . .	1.54 "
Same in Massachusetts, ...	1.54 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	13.79 "
Same in Massachusetts, ...	13.79 "
Total length of tracks laid with steel rails, ...	12.08 "
[Weights per yard, 56 pounds.]	

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade, ...	9
Number of crossings of highways over railroad, . . .	1
Number of highway bridges less than 18 feet above track, .	1
Height of lowest bridge above the rail, ...	15 feet.
Number of crossings at which there are neither signals nor flagman, ...	9

NAME AND RESIDENCE OF OFFICERS.

Charles F. Choate, *President*, Southborough, Mass. John M. Washburn, *Treasurer*, Boston, Mass. John S. Brayton, *Clerk of Corporation*, Fall River, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Charles F. Choate, Southborough, Mass. Frederick L. Ames, North Easton, Mass. J. A. Beauvais, New Bedford, Mass. H. A. Blood, Fitchburg, Mass. John S. Brayton, Fall River, Mass. William Rotch, Boston, Mass. Morgan Rotch, New Bedford, Mass. Royal W. Turner, Randolph, Mass.

PROPER ADDRESS OF THE COMPANY.

FALL RIVER RAILROAD COMPANY,

BOX NO. 379, BOSTON, MASS.

CHARLES F. CHOATE,
J. A. BEAUVAIS,
WM. ROTCH,
FRED'K L. AMES,
ROYAL W. TURNER,
MORGAN ROTCH,
H. A. BLOOD,
Directors.
JOHN M. WASHBURN,
Treasurer.

COMMONWEALTH OF MASSSACHUSETTS.

SUFFOLK, ss. Aug. 29, 1890. Then personally appeared Charles F. Choate, J. A. Beauvais, William Rotch, Frederick L. Ames, Royal W. Turner, Morgan Rotch, H. A. Blood and John M. Washburn, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

AUSTIN W. ADAMS,
Justice of the Peace.

REPORT

OF THE

FALL RIVER, WARREN & PROVIDENCE RAILROAD COMPANY,

For the Year ending June 30, 1890.

[This road was operated by the Trustees for the Bondholders under foreclosure.]

Income Account.

General Exhibit for the Year.

Gross earnings from operation,	$25,350 14	
Less operating expenses,	18,323 11	
Income from operation,		$7,027 03
Miscellaneous income, less expenses:		
Rents,		50 00
Total Income,		7,077 03
Deductions from income:		
Interest on funded debt paid during year,	$6,757 53	
Taxes,	319 50	
Total deductions from income,		7,077 03
Balance Profit and Loss Account June 30, 1889 (deficit),		138,963 44
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (DEFICIT),		138,963 44

Earnings from Operation.

Passenger:	
Passenger revenue,	$22,756 72
Mail,	668 20
Express,	1,500 00
Total Passenger Earnings,	$24,924 92
Freight:	
Freight revenue,	425 22
Total Gross Earnings from Operation,	$25,350 14

Operating Expenses.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures:			
Repairs of roadway,	$2,608 84	$33 37	$2,642 21
Renewals of ties,	1,323 08	16 92	1,340 00
Repairs of bridges and culverts,	559 66	7 09	566 75
Repairs of fences, road crossings, signs and cattle-guards,	485 42	6 15	491 57
Repairs of buildings,	61 80	78	62 58
Total,	$5,038 80	$64 31	$5,103 11

* See note on page 104.

OPERATING EXPENSES — Concluded.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Conducting transportation:			
Wages of enginemen, firemen and roundhouse-men,	$1,386 09	$17 73	$1,403 82
Fuel for locomotives,	2,079 17	26 56	2,105 73
All other supplies for locomotives,	11 30	14	11 44
Wages of other trainmen,	3,154 86	-	3,154 86
Wages of switchmen, flagmen and watchmen,	1,017 01	12 99	1,030 00
Wages of station agents, clerks and laborers,	539 33	67	540 00
Station supplies,	90 82	1 15	91 97
Locomotive mileage,	1,155 09	14 76	1,169 85
Car mileage balances,	3,056 10	15 60	3,071 70
TOTAL,	$12,489 77	$89 60	$12,579 37
General expenses:			
Advertising,	$49 37	$0 63	$50 00
Legal expenses,	522 98	6 62	529 60
Stationery and printing,	24 69	31	25 00
Other general expenses,	35 58	45	36 03
TOTAL,	$632 62	$8 01	$640 63
Recapitulation of expenses:			
Maintenance of way and structures,	$5,038 80	$64 31	$5,103 11
Conducting transportation,	12,489 77	89 60	12,579 37
General expenses,	632 62	8 01	640 63
GRAND TOTAL,	$18,161 19	$161 92	$18,323 11
Percentage of operating expenses to earnings,	-	-	72.28

---

* The items in these columns which are not directly chargeable to either passenger or freight business are to be apportioned between the two on the basis of train mileage as prescribed by the Interstate Commerce Commission. The result, therefore, is not accurate, but only approximate, and this fact must be borne in mind in drawing conclusions therefrom.

General Balance Sheet June 30, 1890.

DR.		
Cost of road,		$310,747 60
Due from agents,	$240 62	
Due from solvent companies and individuals,	5,353 95	
TOTAL CASH AND CURRENT ASSETS,		5,594 57
Profit and Loss balance,		138,963 44
TOTAL,		$455,305 61
CR.		
Capital stock,		$150,000 00
Funded debt,		300,000 00
Current liabilities:		
Audited vouchers and accounts,	$4,712 90	
Wages and salaries,	592 71	
TOTAL CURRENT LIABILITIES,		5,305 61
TOTAL,		$455,305 61

Capital Stock.

Capital stock authorized by charter,	$150,000 00	
Capital stock authorized by votes of company,	150,000 00	
Capital stock issued (number of shares 1,500); amount paid in,		$150,000 00
Total Amount paid in as per Books of the Company,		150,000 00
Total number of stockholders,	27	
Number of stockholders in Massachusetts,	11	
Amount of stock held in Massachusetts,	$103,300 00	

Debt.

Funded debt, as follows:		
First mortgage bonds due April 17, 1883, rate of interest 7 per cent.,		$300,000 00
Interest paid on same during year,	$6,757 53	

Passenger, Freight and Train Mileage.

Passenger traffic:	
Number of passengers carried earning revenue,	212,572
Number of passengers carried one mile,	1,139,402
Average distance carried,	5.36 miles.
Total passenger revenue,	$22,756 72
Average amount received from each passenger,	10.70 cents.
Average receipts per passenger per mile,	2 "
Estimated cost of carrying each passenger one mile,*	1.59 "
Passenger earnings per mile of road,	$4,301 85
Passenger earnings per train mile,	$1 03.6
Freight traffic:	
Number of tons carried of freight earning revenue,	949
Number of tons carried one mile,	4,280
Average distance haul of one ton,	4.51 miles.
Total freight revenue,	$425 22
Average amount received for each ton of freight,	44.8 cents.
Average receipts per ton per mile,	9.9 "
Estimated cost of carrying one ton one mile,*	3.8 "
Freight earnings per mile of road,	$73 39
Freight earnings per train mile,	$1 38.5
Passenger and freight:	
Passenger and freight earnings,	$23,181 94
Passenger and freight earnings per mile of road,	4,001 02
Expense per mile of road,	3,162 43
Total earnings per mile of road, including mails, express, etc.,	4,375 24
Train mileage:	
Miles run by mixed trains,	24,343
Total mileage trains earning revenue,	24,343
Total train mileage,	24,343
Average number of persons employed,	14
Rates of fare:	
Average rate of fare per mile received for local tickets,	3.37 cents.
Average rate of fare per mile received for commutation tickets,	2.70 "
Average rate of fare per mile received for mileage tickets,	2 "
Average rate of fare per mile received for season tickets,	.738 cent.
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies,	2.02 cents.
Rates of freight:	
Average rate per ton per mile received from freight waybilled local,	24.4 "
Average rate per ton per mile received from freight waybilled jointly with other railroads and transportation companies,	9.9 "

---

* See note under "Operating Expenses."

DESCRIPTION OF ROAD OWNED.	
Main line of road from near bridge over Taunton Great River, at Slades' Ferry, to Warren, R. I., ...	5.794 miles.
Main line of road in Massachusetts, ...	3.662 "
Main line of road in Rhode Island, ...	2.132 "
Total road belonging to this company, ...	5.794 "
Sidings and other tracks not before enumerated, . . .	.052 mile.
Same in Massachusetts, ...	.004 mile.
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	6.314 miles.
Same in Massachusetts, ...	3.702 "
Total length of tracks laid with steel rails, ...	5.344 "
[Weights per yard, 56 pounds.]	
Total miles of road operated by this company, ...	5.794 "
Total miles of road operated by this company in Massachusetts,	3.662 "
Number of stations in Massachusetts on all roads operated by this company, ...	2
Number of telegraph offices in same, ...	1
Number of stations on all roads owned by this company, .	2
Same in Massachusetts, ...	2
GENERAL INFORMATION.	
Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade, ...	2
Number of crossings of highways over railroad, ...	1
Number of highway bridges less than 18 feet above track, .	2
Number of crossings at which there are neither signals nor flagman, ...	2

NAME AND RESIDENCE OF OFFICERS.

Charles F. Choate, *President*, Southborough, Mass. James R. Kendrick, *General Manager*, Boston, Mass. John M. Washburn, *Treasurer*, Boston, Mass. John S. Brayton, *Clerk of Corporation*, Fall River, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Charles F. Choate, Southborough, Mass. Frederick L. Ames, North Easton, Mass. John S. Brayton, Fall River, Mass. Royal W. Turner, Randolph, Mass. Thomas Dunn, Newport, R. I. Thomas J. Borden, Fall River, Mass.

PROPER ADDRESS OF THE COMPANY.

FALL RIVER, WARREN & PROVIDENCE RAILROAD COMPANY,
BOX 379, BOSTON, MASS.

CHARLES F. CHOATE,
FRED'K L. AMES,
ROYAL W. TURNER,
THOS. DUNN,
THOS. J. BORDEN,
Directors.
JOHN M. WASHBURN,
Treasurer and Trustee.
J. R. KENDRICK,
General Manager.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS. BOSTON, Aug. 29, 1890. Then personally appeared Charles F. Choate, Frederick L. Ames, Royal W. Turner, Thomas Dunn, Thomas J. Borden, John M. Washburn and J. R. Kendrick, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

AUSTIN W. ADAMS,
Justice of the Peace.

REPORT

OF THE

FITCHBURG RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

INCOME ACCOUNT.

General Exhibit for the Year.

Gross earnings from operation,		$6,256,815 33	
Less operating expenses,		4,350,007 96	
Income from operation,			$1,906,807 37
Interest on bonds owned,			2,718 00
TOTAL INCOME,			1,909,525 37
Deductions from income:			
Interest on funded debt accrued during year,		$799,153 00	
Interest and discount on interest-bearing current liabilities,		8,263 44	
Taxes,		175,597 88	
Rentals:			
Vermont & Massachusetts Railroad,	$244,580 00		
Southern Vermont Railroad,	12,000 00		
Troy & Benningion Railway,	15,400 00		
		271,980 00	
Total deductions from income,			1,254,994 32
NET INCOME,			654,531 05
Dividends declared (2 per cent.) on preferred stock,		$261,835 60	
TOTAL,			261,835 60
Surplus for year ending June 30, 1890,			392,695 45
Balance Profit and Loss Account June 30, 1889 (surplus),			286,213 19
TOTAL PROFIT AND LOSS ACCOUNT (SURPLUS),			678,908 64
Deduct:			
Bleachery fire award,		$252,871 34	
Railroad Commissioners' award,		7,891 94	
Coyle claim,		6,202 35	
Lancaster Railroad,		17,635 51	
Boston, Hoosac Tunnel & Western Railroad,		14,990 00	
			299,591 14
Surplus for nine months, to June 30, 1890, carried to credit of improvement fund,			96,645 02
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),			282,672 48

Earnings from Operation.

Items.	Total Receipts.	Deductions Account of Repayments, etc.	Actual Earnings.
Passenger:			
Passenger revenue,	$1,765,104 60		
Less repayments:			
Excess fares refunded,		$9,339,83	
TOTAL PASSENGER REVENUE,			$1,755,764 77
Mail,			47,384 34
Express,			163,472 16
Other items,			28,472 96
TOTAL PASSENGER EARNINGS,			$1,995,094 23
Freight:			
Freight revenue,	$3,965,713 53		
Less repayments:			
Overcharge to shippers,		$85,461 59	
TOTAL FREIGHT REVENUE,			$3,880,251 94
Elevators and docks,			184,644 89
Other items,			81,523 78
TOTAL FREIGHT EARNINGS,			$4,146,420 61
TOTAL PASSENGER AND FREIGHT EARNINGS,			$6,141,514 84
Other earnings from operation:			
Rentals not otherwise provided for,			101,160 49
Other sources,			14,140 00
TOTAL OTHER EARNINGS,			115,300 49
TOTAL GROSS EARNINGS FROM OPERATION,			$6,256,815 33

Operating Expenses.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures:			
Repairs of roadway,	$183,680 18	$245,498 62	$429,178 80
Renewals of rails,	47,551 60	62,756 02	110,307 62
Renewals of ties,	49,051 60	65,311 36	114,362 96
Repairs of bridges and culverts,	17,607 02	23,223 15	40,830 17
Repairs of fences, road crossings, signs and cattle guards,	14,702 84	19,579 56	34,282 40
Repairs of buildings,	40,981 39	35,402 28	76,383 67
Repairs of docks and wharves,	21,225 30	28,376 05	49,601 35
Repairs of telegraph,	1,018 42	1,352 44	2,370 86
TOTAL,	$375,818 35	$481,499 48	$857,317 83
Maintenance of equipment:			
Repairs and renewals of locomotives,	$101,829 59	$135,920 49	$237,750 08
Repairs and renewals of passenger cars,	79,194 80	–	79,194 80
Repairs and renewals of freight cars,	–	283,480 03	283,480 03
Shop machinery, tools, etc.,	15,621 13	20,998 98	36,620 11
Other expenses,	9,794 06	16,103 03	25,897 09
TOTAL,	$206,439 58	$456,502 53	$662,942 11
Conducting transportation:			
Wages of enginemen, firemen and roundhouse-men,	$170,969 96	$301,585 67	$472,555 63
Fuel for locomotives,	200,843 13	314,682 99	515,526 12
Water supply for locomotives,	11,027 41	14,982 19	26,009 60
All other supplies for locomotives,	13,837 95	18,599 17	32,437 12
Wages of other trainmen,	123,870 24	223,896 06	347,766 30
All other train supplies,	17,402 62	25,728 36	43,130 98

* See note on page 110.

Operating Expenses — Concluded.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Conducting transportation — *Concluded.*			
Wages of switchmen, flagmen and watchmen, .	$55,074 03	$228,242 64	$283,316 67
Expense of telegraph, including train despatchers and operators, ...	26,218 79	35,150 21	61,369 00
Wages of station agents, clerks and laborers, .	95,381 84	303,248 11	398,629 95
Station supplies, ...	20,604 94	14,329 74	34,934 68
Car mileage balances, ...	26,322 70	78,177 43	104,500 13
Loss and damage, ...	3,520 42	13,767 49	17,287 91
Injuries to persons, ...	17,059 51	24,985 10	42,044 61
Total, ...	$782,133 54	$1,597,375 16	$2,379,508 70
General expenses:			
Salaries of officers, ...	$30,529 86	$42,282 72	$72,812 58
Salaries of clerks, ...	29,762 53	60,877 41	90,639 94
General office expenses and supplies, . .	7,277 28	10,725 84	18,003 12
Agencies, including salaries and rent, . .	6,156 71	295 42	6,452 13
Advertising, ...	13,332 53	230 78	13,563 31
Insurance, ...	5,670 73	19,427 81	25,098 54
Expense of fast freight lines, ...	–	44,954 74	44,954 74
Expense of traffic associations, ...	746 40	2,767 00	3,513 40
Expense of stock yards and elevators, . .	–	101,084 53	101,084 53
Rentals not otherwise provided for, . . .	5,948 66	8,006 69	13,955 35
Legal expenses, ...	6,831 18	9,052 17	15,883 35
Stationery and printing, ...	14,606 95	21,487 45	36,094 40
Other general expenses, ...	4,007 78	4,176 15	8,183 93
Total, ...	$124,870 61	$325,368 71	$450,239 32
Recapitulation of expenses:			
Maintenance of way and structures, ...	$375,818 35	$481,499 48	$857,317 83
Maintenance of equipment, ...	206,439 58	456,502 53	662,942 11
Conducting transportation, ...	782,133 54	1,597,375 16	2,379,508 70
General expenses, ...	124,870 61	325,368 71	450,239 32
Grand Total, ...	$1,489,262 08	$2,860,745 88	$4,350,007 96
Percentage of operating expenses to earnings, .	69.52		

---

* The items in these columns which are not directly chargeable to either passenger or freight business are to be apportioned between the two on the basis of train mileage as prescribed by the Interstate Commerce Commission. The result, therefore, is not accurate, but only approximate, and this fact must be borne in mind in drawing conclusions therefrom.

Property Accounts: Charges and Credits during the Year.

Lands, land damages and fences (credit), ...		$730 44
Engine houses, car sheds and turn tables, ...		14,958 05
Machine shops, ...		57,278 03
Purchase of other roads:		
Troy & Greenfield Railroad and Hoosac Tunnel, .	$400 00	
Boston, Hoosac Tunnel & Western Railway, .	1,500 00	
		1,900 00
Shop machinery and tools, ...		4,331 19
New freight yards, ...		14,641 54
Docks and elevators, ...		9,893 25
Construction not apportioned, ...		77,894 89
Total for Construction, ...		180,166 51
Locomotives and steam heating, ...		94,991 66
Passenger, mail and baggage cars, and steam heating, . .		14,658 24
Freight and other cars, and steam heating, ...		84,054 27
Total for Equipment, ...		193,704 17
Total Charges to Property Accounts, ...		373,870 68

General Balance Sheet June 30, 1890.

Dr.

Cost of road,	$33,525,312 86	
Cost of equipment,	3,733,601 16	
Bonds of Boston, Barre & Gardner Railroad,	90,600 00	
Vermont & Massachusetts Railroad Improvements,	1,491,000 54	
TOTAL PERMANENT INVESTMENTS,		$38,840,514 56
Cash,	$557,312 91	
Bills receivable,	109,265 00	
Due from agents,	466,505 81	
Net traffic balances due from other companies,	310,302 49	
Due from solvent companies and individuals,	208,980 12	
Other cash assets,	553,376 00	
TOTAL CASH AND CURRENT ASSETS,		2,205,742 33
Other assets:		
Materials and supplies,		765,663 48
TOTAL,		$41,811,920 37

Cr.

Capital stock: Common,	$7,000 000 00	
Capital stock: Preferred,	13,775 100 00	
TOTAL CAPITAL STOCK,		$20,775,100 00
Funded debt,		18,534,600 00
Current liabilities:		
Loans and bills payable,	$780,000 00	
Audited vouchers and accounts,	165,295 98	
Wages and salaries,	70,654 14	
Net traffic balances due to other companies,	382,458 97	
Dividends not called for,	262,433 80	
Matured interest coupons unpaid (including coupons due July 1),	11,665 50	
Rentals due July 1,	34,008 32	
Miscellaneous,	12,664 43	
TOTAL CURRENT LIABILITIES,		1,719,181 14
Accrued interest on funded debt not yet payable,		229,927 33
Accrued taxes not yet payable,		109,149 40
Accrued rent of roads not yet payable,		64,645 00
Improvement fund,		96,645 02
Profit and Loss balance,		282,672 48
TOTAL,		$41,811,920 37

Current Liabilities and Assets.

CURRENT LIABILITIES ACCRUING UP TO AND INCLUDING JUNE 30, 1890.

Loans and bills payable,	$780,000 00
Audited vouchers and accounts,	165,295 98
Wages and salaries,	70,654 14
Net traffic balances due to other companies,	382,458 97
Dividends not called for,	262,433 80
Matured interest coupons unpaid (including coupons due July 1),	11,665 50
Rentals due July 1,	34,008 32
Miscellaneous,	12,664 43
Balance net current assets,	486,561 19
TOTAL,	$2,205,742 33

CASH AND CURRENT ASSETS AVAILABLE FOR PAYMENT OF CURRENT LIABILITIES.

Cash,	$557,312 91
Bills receivable,	109,265 00
Due from agents,	466,505 81
Net traffic balances due from other companies,	310,302 49
Due from solvent companies and individuals,	208,980 12
Other cash assets,	553,376 00
TOTAL,	$2,205,742 33
Materials and supplies on hand (see Balance Sheet),	$765,663 48

CAPITAL STOCK.

Capital stock authorized by charter: $100,000 per mile for double track; $70,000 per mile for single track; $3,000,000 for terminal at Boston.		
Capital stock authorized by votes of company,	$20,775,100 00	
Capital stock issued (number of shares, 207,751); amount paid in,		$20,775,100 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		20,775,100 00
Total number of stockholders:	Common, 2 Preferred, 4,312	4,314
Number of stockholders in Massachusetts:	Common, 1 Preferred, 3,480	3,481
Amount of stock held in Massachusetts:	Common, $5,000,000 00 Preferred, 8,850,400 00	13,850,400 00

DEBT.

Funded debt, as follows:

Plain bonds due April 1, 1894, rate of interest 7 per cent.,		$500,000 00
Interest paid on same during year,	$35,385 00	
Plain bonds due Oct. 1, 1897, rate of interest 6 per cent.,		500,000 00
Interest paid on same during year,	$30,180 00	
Plain bonds due Oct. 1, 1899, rate of interest 5 per cent.,		500,000 00
Interest paid on same during year,	$26,100 00	
Plain bonds due Oct. 1, 1900, rate of interest 5 per cent.,		500,000 00
Interest paid on same during year,	$24,950 00	
Plain bonds due Oct. 1, 1901, rate of interest 5 per cent.,		500,000 00
Interest paid on same during year,	$24,850 00	
Plain bonds due April 1, 1902, rate of interest 5 per cent.,		500,000 00
Interest paid on same during year,	$25,000 00	
Plain bonds due April 1, 1903, rate of interest 5 per cent.,		500,000 00
Interest paid on same during year,	$25,000 00	
Plain bonds due March 1, 1904, rate of interest 4 per cent.,		500,000 00
Interest paid on same during year,	$20,000 00	
Plain bonds due June 1, 1905, rate of interest 4 per cent.,		500,000 00
Interest paid on same during year,	$19,460 00	
Plain bonds due Feb. 1, 1937, rate of interest 3 per cent.,		5,000,000 00
Interest paid on same during year,	$150,000 00	
Plain bonds due April 1, 1907, rate of interest 4 per cent.,		1,500,000 00
Interest paid on same during year,	$59,600 00	
Plain bonds due Sept. 1, 1897, rate of interest 4½ per cent.,		2,250,000 00
Interest paid on same during year,	$101,250 00	
Plain bonds due May 1, 1908, rate of interest 5 per cent.,		2,000,000 00
Interest paid on same during year,	$100,850 00	
Plain bonds due March 1, 1899, rate of interest 5 per cent.,		750,000 00
Interest paid on same during year,	$37,500 00	
B., B. & G. R.R. first mortgage bonds due April 1, 1893, rate of interest 7 per cent.,		91,300 00
Interest paid on same during year,	$6,850 50	

Funded debt — *Concluded.*		
B., B. & G. R.R. first mortgage bonds due April 1, 1893, rate of interest 5 per cent.,		$299,700 00
Interest paid on same during year,	$14,740 00	
B., B. & G. R.R. second mortgage bonds due July 1, 1895, rate of interest 3 per cent.,		186,300 00
Interest paid on same during year,	$5,589 00	
B., B. & G. R.R. third mortgage bonds due July 1, 1895, rate of interest 6 per cent.,		57,300 00
Interest paid on same during year,	$3,438 00	
H. T. D. & El. Co.'s mortgage note due April 5, 1892, rate of interest 4 per cent.,		500,000 00
Interest paid on same during year,	$20,000 00	
B. H. T. & W. R'y debentures due Sept. 1, 1913, rate of interest 5 per cent.,		1,400,000 00
Interest paid on same during year,	$70,000 00	
TOTAL AMOUNT OF FUNDED DEBT,		$18,534,600 00

PASSENGER, FREIGHT AND TRAIN MILEAGE.

Passenger traffic:	
Number of passengers carried earning revenue,	5,895,202
Number of passengers carried one mile,	91,705,034
Average distance carried,	15.55
Total passenger revenue,	$1,755,764 77
Average amount received from each passenger,	29.78 cents.
Average receipts per passenger per mile,	1.91 "
Estimated cost of carrying each passenger one mile,*	1.624 "
Passenger earnings per mile of road,	$4,757 14
Passenger earnings per train mile,	92.72 cents.
Freight traffic:	
Number of tons carried of freight earning revenue,	3,971,318
Number of tons carried one mile,	390,079,822
Average distance haul of one ton,	98.22
Total freight revenue,	$3,880,251 94
Average amount received for each ton of freight,	97.707 cents.
Average receipts per ton per mile,	1.015 "
Estimated cost of carrying one ton one mile,*	.733 cent.
Freight earnings per mile of road,	$10,513 31
Freight earnings per train mile,	$1 56 29
Passenger and freight:	
Passenger and freight earnings,	$5,636,016 71
Passenger and freight earnings per mile of road,	15,270 45
Expense per mile of road,	11,786 08
Total earnings per mile of road, including mails, express, etc.,	16,952 46
Train mileage:	
Miles run by passenger trains,	1,893,601
Miles run by freight trains,	2,482,579
Total mileage trains earning revenue,	4,376,180
Miles run by switching trains,	1,205,842
Miles run by construction and other trains,	59,334
Total train mileage,	5,641,356
Mileage of loaded freight cars, east,	24,462,586
Mileage of loaded freight cars, west,	10,544,767
Mileage of empty freight cars, east,	446,644
Mileage of empty freight cars, west,	16,390,049
Average number of persons employed,	4,487
Rates of fare:	
Average rate of fare per mile received for local tickets,	1.87 cents.
Average rate of fare per mile received for commutation tickets,	1.22 "

---

* See note under "Operating Expenses."

Rates of fare — *Concluded.*		
Average rate of fare per mile received for season tickets,	.71	cent.
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies,	2.07	cents.
Rates of freight:		
Average rate per ton per mile received from freight way-billed local,	2.65	"
Average rate per ton per mile received from freight way-billed jointly with other railroads and transportation companies,	.82	cent.
Relating to passengers:		
Passengers to Boston (including season),	1,763,157	
Passengers from Boston (including season),	1,766,372	
Season-ticket passengers to and from Boston,	162,630	

Description of Road Owned.

Main line of road from Boston to Fitchburg, Greenfield to Rotterdam, N. Y.,	189.96	miles.
Main line of road in Massachusetts,	94	"
Main line of road in New York,	89.47	"
Main line of road in Vermont,	6.49	"
Double track on main line,	100.56	"
Same in Massachusetts,	94	"
Third track on main line,	1.66	"
Same in Massachusetts,	1.66	"
Branches owned by company, viz.:		
Ice track, Boston (double track),	.68	mile.
Watertown (single track),	8.26	miles.
Marlborough (single track),	12.42	"
Peterborough & Shirley (single track),	23.62	"
Worcester (single track),	36	"
Ashburnham (single track),	2.59	"
Saratoga & Schuylerville (single track),	25.52	"
Total length of branches owned by company,	109.09	"
Total length of branches owned by company in Massachusetts,	74.10	"
Total length of branches owned by company in New Hampshire,	9.47	"
Total length of branches owned by company in New York,	25.52	"
Double track on branches,	.68	mile.
Same in Massachusetts,	.68	mile.
Total road belonging to this company,	299.05	miles.
Sidings and other tracks not before enumerated,	188 48	"
Same in Massachusetts,	145.51	"
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	590 43	"
Same in Massachusetts,	409.95	"
Total length of tracks laid with steel rails, [Weights per yard, 60, 72 and 76 pounds.]	478	"

Roads and Branches belonging to Other Companies, operated by this Company under Lease or Contract, the Operations of which are included in this Return.

Vermont & Massachusetts,	56	miles.
Turner's Falls Branch,	2.80	"
Troy & Bennington,	5.04	"
Southern Vermont,	6.19	"
Total length of above roads,	70.03	"
Total length of above roads in Massachusetts,	58.80	"
Total length of above roads in other States (specifying each):		
New York,	5.04	"
Vermont,	6.19	"
Total miles of road operated by this company,	369.08	"

Total miles of road operated by this company in Massachusetts,	226.90 miles.
Number of stations in Massachusetts on all roads operated by this company,	92
Number of telegraph offices in same,	77
Number of stations on all roads owned by this company,	124
Same in Massachusetts,	76

Bridges on Roads operated in Massachusetts.

Total length of pile and trestle bridging,	4,212 feet.
Bridges extensively repaired during the year (specify how): West of Zoar. Plate frames, additional plates and re-riveted.	
Total amount expended for repairs and renewals of bridges,	$51,477 00

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	203
Number of crossings of highways over railroad,	24
Number of crossings of highways under railroad,	16
Number of highway bridges 18 feet above track,	8
Number of highway bridges less than 18 feet above track,	16
Height of lowest bridge above the rail,	14 ft. 6 in.
Number of crossings at which gates or flagman are maintained,	88
Number of crossings at which electric signals are maintained,	30
Number of crossings at which there are neither signals nor flagman,	113
Number of railroad crossings at grade (specifying each),	7
Boston & Maine; Eastern; Old Colony (Concord); Worcester & Nashua (Ayer); Old Colony (Fitchburg); Boston & Albany; Worcester & Nashua (Worcester).	
Number of railroad crossings over other railroads (specifying each),	1
Boston & Albany.	
Number of railroad crossings under other railroads (specifying each),	5
Boston & Lowell; Central Massachusetts (West Cambridge); Central Massachusetts (Worcester); Central Massachusetts (Hudson); Central Massachusetts (Jefferson).	

Description of Equipment.

	Number Owned.	Number Leased.	Total Number	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel. Brake.	Number Equipped with Patent Coupler.
Locomotives:				Lbs.	Lbs.			
Passenger,	85	8	93	94,660	70,290	93	6	1
Freight,	64	–	64	116,300	96,938	45	52	–
Other,	30	–	30	99,000	64,046	–	30	–
TOTAL,	179	8	187	–	–	138	88	1
Passenger cars,	138	7	145	–	–	145	–	145
Combination cars,	25	–	25	–	–	25	–	25
Baggage, mail and express cars,	37	3	40	–	–	40	–	40
Directors' and pay cars,	2	–	2	–	–	2	–	2
TOTAL,	202	10	212	–	–	212	–	212

Description of Equipment — Concluded.

	Number Owned.	Number Leased.	Total Number.	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.	Number Equipped with Patent Coupler.
Box freight cars (basis of 8 wheels),	3,606	361	3,967	-	-	503	-	111
Stock freight cars (basis of 8 wheels),	197	-	197	-	-	50	-	-
Coal freight cars (basis of 8 wheels),	677	-	677	-	-	-	-	-
Flat freight cars (basis of 8 wheels),	659½	-	659½	-	-	-	-	-
Other freight cars (basis of 8 wheels),	69	-	69	-	-	16	-	-
TOTAL, . .	5,208½	361	5,569½	-	-	569	-	111
Cars in company's service:								
Gravel cars, .	177	-	177	-	-	-	-	-
Derrick cars, .	16	-	16	-	-	7	-	-
Caboose cars, .	84	-	84	-	-	-	-	-
Other road cars, .	14	-	14	-	-	-	-	-
Boarding cars, .	9	6	15	-	-	15	-	15
TOTAL, . .	300	6	306	-	-	22	-	15

Number of cars in passenger equipment with 8 wheels fitted with brakes for all wheels, ...	211
Number of cars in passenger equipment with 12 wheels fitted with brakes for all wheels, ...	1

List of Accidents.

	From Causes beyond their own Control (in Massachusetts).		From their own Misconduct or Carelessness (in Massachusetts).		Total in Massachusetts.		Total on Whole Road operated.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, .	2	-	-	2	-	2	-	2
Employees, .	-	2	6	37	8	39	10	60
Others, . .	-	2	22	14	22	16	27	24

Statement of Each Accident in Massachusetts.

July 1, 1889. — Hoosac Tunnel: Joseph Williams, while walking the track, was struck by engine of express passenger train, receiving injuries from which he died same day.

July 3. — Concord: Fred Thyng, freight brakeman, fell from top of freight car to ground between rails, and wheel ran over his leg and arm. He was removed to the Massachusetts General Hospital, and died same day. Train parted, and he fell at point of separation.

July 7. — Littleton: Unknown man lying on track just around curve was struck by engine. He was removed to the Massachusetts General Hospital, and died same day.

July 8. — Greenfield: Michael O'Neal, a car-number taker, while climbing down ladder of moving freight car, slipped and fell to the ground, and wheels passed over both legs, cutting them off. He died same day.

July 16. — Charlestown: Timothy McCarthy, about six years old, while attempting to crawl under a freight car in freight yard, had his leg run over by wheel of moving freight car. He was taken to the Massachusetts General Hospital.

July 22. — East Deerfield: F. W. Groves, freight brakeman, while pulling pin between freight cars, had his arm caught between dead-woods and quite badly lacerated. Removed to Massachusetts General Hospital.

August 2. — Orange: John Carney was found lying between the rails of a west-bound track after the passage of express passenger train and the freight train. Both legs were cut off, head and back injured. Died Aug. 3, 1889.

August 6. — Worcester: Homer Warner, freight brakeman, while attempting to couple freight cars, had his hand crushed between dead-woods. No bones broken. Removed to Massachusetts General Hospital.

August 14. — Charlestown: James Doyle stepped onto the track in front of an engine backing towards Boston, and was run over. He was removed to Massachusetts General Hospital, and died same day.

August 15. — Concord: Edwin G. Blake, carpenter in the employ of the company, while moving gate on High Street crossing, was struck by engine of the east-bound express train, and instantly killed.

August 16. — Shelburne Falls: Edwin Hastings, lying between the rails, his head over one rail, was struck by the east-bound passenger express train, and instantly killed.

August 21. — Waltham: John O'Toole, while walking on the track, was struck by the west-bound passenger train, and instantly killed.

August 22. — North Adams: Eliza Beadles, while walking on the track, was struck by engine of west-bound express passenger train, and instantly killed.

August 24. — Royalston: George Hall, while attempting to run across the track at public crossing, was struck by the engine of a west-bound passenger train, and instantly killed.

August 27. — Worcester: Edward Nevelle, yard freight conductor, while attempting to pull the pin between two freight cars, was thrown down and run over, cutting off both legs and one arm. He died soon after.

September 5. — Princeton: A. B. Hassam, passenger-train conductor, broke a cord in his left leg while boarding his passenger train when moving.

September 5. — Worcester: J. A. Jones, passenger-train brakeman, caught his finger between buffers, while coupling engine to passenger coach, necessitating the amputation of one finger.

September 6. — Union Square: Timothy Quinn, while walking in the freight yard, got onto a moving freight train to steal a ride, and, on getting off, his foot was caught and crushed. Removed to Massachusetts General Hospital.

September 14. — Gardner: Clarence B. Chilson, freight brakeman, while attempting to couple freight cars, had his left arm broken and crushed. Removed to the Massachusetts General Hospital.

September 17. — Williamstown: C. H. Russell, freight brakeman, while coupling freight cars, had two fingers on right hand badly jammed.

September 24. — Cambridge: George Gunn, about fourteen years of age, while playing in the freight yard, had three or four ribs broken in attempting to couple some freight cars that two other boys were pushing.

October 1. — Fitchburg: D. E. Cummings, freight brakeman, while attempting to get off a moving freight train on which he did not belong, fell under the wheels, which ran over his leg and arm, cutting them off. He died the same day.

October 5. — Gardner: Michael Sullivan, freight brakeman, while hanging on the end ladder of a freight car, swung himself out, and was struck by a car standing on parallel track, and had three ribs broken.

October 7. — West Cambridge: Thomas F. Burbank, while driving over a private crossing, was struck by the engine of east-bound passenger train, and instantly killed. Horse killed and buggy destroyed.

October 14. — Charlestown: James Zachery, freight brakeman, had his thumb split while coupling freight cars.

October 16. — North Adams: Joseph Lasselle found on track, where he had been run over by train. Right leg crushed, and bad cut in groin. Leg amputated.

October 17. — Williamstown: Thomas Mulcahy, freight brakeman, while coupling freight cars, had right hand caught and crushed between dead-woods; two fingers amputated.

October 18. — Union Square: Robert Gordon, freight brakeman, while uncoupling freight cars, caught his hand between pin and dead-block, crushing finger.

October 21. — Gardner: J. L. Boland, freight brakeman, while coupling freight cars, had finger cut off by being caught between dead-woods.

October 21. — North Adams: E. Winnard, passenger-train brakeman, while uncoupling engine from train, had finger caught and crushed between the pin and the buffer on engine.

October 26. — Gardner: Herman Fitch and Bert Coty, aged seven and thirteen years respectively, while driving over highway crossing in top buggy, team was struck by engine, and both boys instantly killed.

November 9. — Charlestown: Patrick Fitzgerald, freight brakeman, while descending ladder of moving car, slipped off, and struck his foot, and broke bones over the instep. Removed to the Massachusetts General Hospital.

November 11. — Williamstown: O. H. Davis, freight brakeman, while coupling freight cars, had hand caught between dead-blocks: one finger crushed and amputated.

November 12. — Charlestown: Joseph Thornton, freight brakeman, while coupling freight cars, had hand caught between dead-woods. Was removed to the Massachusetts General Hospital, and three fingers were amputated.

November 20. — Fitchburg: F. S. Pratt, freight brakeman, walked off the end of freight car, and sprained his ankle.

November 21. — East Deerfield: W. H. Savage, freight brakeman, while coupling freight cars, had right hand caught between dead-woods, and crushed. Removed to Massachusetts General Hospital.

November 23. — Fitchburg: Thomas Moran, freight brakeman, while coupling engine to train, had his hand caught; one finger amputated.

November 24. — Fitchburg: John Madden, while walking on the track, was struck by engine of east-bound passenger express train, and was killed.

November 26. — Williamstown: Hugh Williams, freight brakeman, while coupling freight cars, had left hand crushed. One finger amputated.

November 28. — Waltham: George Haggerty was struck by engine of east-bound passenger train; slightly injured.

November 29. — Union Square: Robert Bertram, freight brakeman, while coupling freight cars, had hand caught between draw-bars and badly bruised.

December 5. — Somerville: Percy Fielding, a small boy, was found on track with leg crushed. Removed to Massachusetts General Hospital.

December 5. — Waltham: Ellen Cooney, while walking on the track, was struck by engine of west-bound passenger train. Removed to Waltham Hospital.

December 11. — Orange: John Keefe, while attempting to cross on foot in front of an approaching train, stumbled and fell, and engine ran over one leg. Removed to Massachusetts General Hospital.

December 11. — Athol: W. A. Silver, freight brakeman, while coupling saloon car to freight train, caught his left hand between draw-bars, crushing thumb and finger.

December 12. — Union Square: William Webster ran into a moving engine, and was thrown under the wheels; both legs crushed. Removed to Massachusetts General Hospital, where legs were amputated. He died same day.

December 17. — Fitchburg: Albert L. Lilienthal, while walking on the planking between the main tracks at Fitchburg, the engine of an east-bound express passenger train struck him, throwing him down. Injuries slight. Removed to Massachusetts General Hospital.

December 18. — Westminster: Body of John Sullivan found on the track by train walker. Body badly cut up. Circumstances unknown.

December 21. — Concord Junction: Martin O'Neil, station switchman, while pulling pin between freight cars, caught his arm between draw-bars, breaking it.

December 23. — Fitchburg: Dominick Mulhern and Michael Gorman, while crossing in a team at a private crossing, were struck by a freight train backing down. Horse killed, and occupants considerably injured.

January 3, 1890. — Somerville: Ray Brooks, while attempting to run across the track in front of a moving passenger train, was struck by the engine, and left arm broken. Removed to Cambridge Hospital.

January 4. — Fitchburg: E. R. Smith, yard conductor, while trying to pull pin between engine and freight car, had right arm caught between the draw-castings, breaking it.

January 9. — Gardner: Body of James Barry, crossing flagman, found lying between the two main tracks, about fifteen rods from the crossing. Circumstances unknown.

January 13. — Charlestown: Nicholas Mulchaey, freight brakeman, while coupling freight cars, had one finger and thumb badly jammed between draw-bars.

January 16. — Williamstown: Frank Chesboro, freight brakemen, while coupling freight car, had forefinger crushed.

January 25. — Roberts: C. T. Slocum, fireman, while attempting to couple engine to passenger car, had his forefinger caught between the draw-bars, and cut off; second finger also jammed.

January 25. — Boston: D. L. Johnson found on side track, with both legs cut off. Circumstances unknown. Removed to Massachusetts General Hospital, where he died about an hour later.

February 2. — Charlestown: Jerry Sexton, yard master, while walking near the track, was struck by switching engine, receiving a deep cut on the leg near the thigh; also cut on the head. Removed to Massachusetts General Hospital.

February 9. — Williamstown: James Lewis, freight brakeman, while coupling freight cars, had his right arm caught between dead-woods, and badly crushed. Removed to Massachusetts General Hospital.

February 10. — Waltham: John McCabe, boy about fourteen years of age, jumped from train on which he was stealing a ride; wheels ran over his head, killing him instantly.

February 18. — Waltham: Margaret Connors, while walking on the track, was struck by engine of east-bound passenger train, and had arm broken.

February 25. — Gardner: A. C. Hornbeck, freight brakeman, while coupling freight cars, had his right arm caught between the dead-blocks, and badly crushed. Removed to Massachusetts General Hospital, where arm was amputated.

March 2. — Worcester: Fred Harbeck, freight brakeman, fell between freight cars, breaking the bones at the ankle.

March 9. — Winchendon: Theophilus Cadarette, freight brakeman, while coupling engine to freight car, had left hand caught between draw-bars, and crushed.

March 10. — Hills Crossing: Charles Coe, freight brakeman, fell between cars of moving freight train, and was instantly killed.

March 12. — Boston: Gilman S. Taylor, while walking on the track, was struck by engine, cutting left arm off near shoulder, and bruising head. Removed to Massachusetts General Hospital.

March 24. — Fitchburg: F. L. Jones, fireman, and C. M. Smith, brakeman, injured by the explosion of the boiler of engine No. 73. Not serious.

April 2. — West Cambridge: Joseph Pelkey, while walking on the track, was struck by engine of west-bound passenger train, and instantly killed.

April 3. — Gardner: Fred Howe, conductor of switching gang, while coupling freight cars, had hand caught between draw-bars, cutting off forefinger.

April 5. — Waltham: George Osborne, freight brakeman, while pulling pin between two freight cars, had forefinger badly bruised.

April 7. — Charlestown: Peter McCabe, yard conductor, was crushed between platform and the car, at Hoosac Tunnel dock, caused by car leaving the track. Instantly killed.

April 7. — Greenfield: Sidney S. Newton, freight brakeman, fell from top of freight car, receiving injuries to stomach and wrist.

April 7. — East Deerfield: G. W. Olmstaed, freight brakeman, while coupling saloon to freight car, had right hand cut between dead-blocks. Two fingers cut off at first joint.

April 28. — Athol: Edward Smith, thirteen years of age, fell from a caboose car, on which he was stealing a ride. The wheels ran over his legs. Removed to Massachusetts General Hospital, where both legs were amputated.

May 1. — Greenfield: George S. Fiske, freight brakeman, was struck by the roof of a passenger shed and knocked to the ground, breaking his arm. Removed to Massachusetts General Hospital.

May 3. — Cambridge: Charles Wright, nine years of age, while playing on coal cars on side track, was knocked off and run over. Instantly killed.

May 6. — Baldwinville; R. C. Nichols, drover, having charge of cattle, while attempting to board moving train, fell under the train, the wheels passing over each arm. Removed to Massachusetts General Hospital.

May 9. — Gardner: Louis Portelance, car inspector, while crossing the east-bound main track, was struck by freight car which was being backed up, and his leg was broken.

May 12. — Ayer Junction: Philander Kempt, while crossing the track, was struck by an engine and instantly killed.

May 19. — Somerville: Frank Higgins, passenger, jumped from a moving passenger train, and was badly shaken up. Removed to Massachusetts General Hospital.

May 29. — North Adams: Thomas B. Duffy, while attempting to jump onto a moving freight train, for the purpose of stealing a ride, fell, and the wheels ran over his right leg. He died the same day.

May 31. — Waltham: Joseph Mackin, passenger, while attempting to board a moving passenger train, fell, and the wheels passed over his left foot.

June 16. — Orange: James Bradley, while walking on the track, was struck by the engine of a west-bound passenger train, and instantly killed.

June 17. — Gardner: Thomas F. Carney, sixteen years of age, while attempting to board a moving freight train to steal a ride, fell off, and the train passed over him, cutting off both arms and a leg. He died the same day.

NAME AND RESIDENCE OF OFFICERS.

Henry S. Marcy, *President*, Boston, Mass. John Whitmore, *General Traffic Manager*, Boston, Mass. George A. Torrey, *General Counsel*, Boston, Mass. C. S. Anthony, *Auditor*, Boston, Mass. John Adams, *Superintendent*, Boston, Mass. A. S. Crane, *General Freight Agent*, Boston, Mass. J. R. Watson, *General Passenger Agent*, Boston, Mass. Daniel A. Gleason, *Treasurer*, Boston, Mass. Thomas Whittemore, *Clerk of Corporation*, Cambridge, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Henry S. Marcy, Boston, Mass. David P. Kimball, Boston, Mass. W. S. Webb, New York, N. Y. Robert Codman, Boston, Mass. James Renfrew, Jr., Adams, Mass. Francis Smith, Rockland, Me. Rodney Wallace, Fitchburg, Mass. Augustus Kountze, New York, N. Y. William H. Hollister, New York, N. Y. Charles T. Crocker, Fitchburg, Mass. Frederick L. Ames, Easton, Mass. John Quincy Adams, Quincy, Mass. George Heywood, Concord, Mass.

PROPER ADDRESS OF THE COMPANY.

FITCHBURG RAILROAD COMPANY,
BOSTON, MASS.

H. S. MARCY,
ROBERT CODMAN,
RODNEY WALLACE,
C. T. CROCKER,
FRANCIS SMITH,
DAVID P. KIMBALL,
J. Q. ADAMS,
FRED'K L. AMES,
JAS. RENFREW, JR.,
GEO. HEYWOOD,
WM. H. HOLLISTER,
Directors.
DAN. A. GLEASON,
Treasurer.
JOHN ADAMS,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. BOSTON, Sept. 3, 1890. Then personally appeared H. S. Marcy, Robert Codman, Rodney Wallace, C. T. Crocker, Francis Smith, David P. Kimball, J. Q. Adams, Frederick L. Ames, James Renfrew, Jr., George Heywood, William H. Hollister, Daniel A. Gleason and John Adams, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

THOMAS WHITTEMORE,
Justice of the Peace.

REPORT

OF THE

GRAFTON & UPTON RAILROAD COMPANY,

For the Year ending June 30, 1890.

Income Account.

General Exhibit for the Year.

Gross earnings from operation,	$24,583 37	
Less operating expenses,	9,371 84	
Income from operation,		$15,211 53
Deductions from income:		
Interest and discount on interest-bearing current liabilities,	$12,540 90	
Taxes,	920 00	
Total deductions from income,		13,460 00
NET INCOME,		1,751 53
Balance Profit and Loss Account June 30, 1889 (surplus),		2,509 90
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		4,261 43

Earnings from Operation.

Passenger:		
Passenger revenue,	$10,855 10	
Mail,	100 98	
Express,	1,277 50	
TOTAL PASSENGER EARNINGS,		$12,233 58
Freight:		
Freight revenue,	$12,349 79	
TOTAL FREIGHT EARNINGS,		12,349 79
TOTAL GROSS EARNINGS FROM OPERATION,		$24,583 37

Operating Expenses.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures:			
Repairs of roadway,	$102 68	$68 45	$171 13
TOTAL,	$102 68	$68 45	$171 13
Maintenance of equipment:			
Repairs and renewals of locomotives,	$27 37	$18 25	$45 62
Repairs and renewals of passenger cars,	22 49	–	22 49
TOTAL,	$49 86	$18 25	$68 11

---

* See note on page 124.

OPERATING EXPENSES — Concluded.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Conducting transportation:			
Wages of enginemen, firemen and roundhouse-men,	$1,409 47	$939 65	$2,349 12
Fuel for locomotives,	1,014 48	676 33	1,690 81
Water supply for locomotives,	74 29	49 54	123 83
All other supplies for locomotives,	206 07	137 39	343 46
Wages of other trainmen,	1,213 26	808 84	2,022 10
Wages of switchmen, flagmen and watchmen,	240 04	160 04	400 08
Wages of station agents, clerks and laborers,	391 56	261 04	652 60
Car mileage balances,	–	197 60	197 60
Other expenses,	115 11	76 75	191 86
TOTAL,	$4,664 28	$3,307 18	$7,971 46
General expenses:			
Salaries of officers,	$540 00	$360 00	$900 00
Stationery and printing,	156 68	104 46	261 14
TOTAL,	$696 68	$464 46	$1,161 14
Recapitulation of expenses:			
Maintenance of way and structures,	$102 68	$68 45	$171 13
Maintenance of equipment,	49 86	18 25	68 11
Conducting transportation,	4,664 28	3,307 18	7,971 46
General expenses,	696 68	464 46	1,161 14
GRAND TOTAL,	$5,513 50	$3,858 34	$9,371 84
Percentage of operating expenses to earnings,	45	31	38

---

* The items in these columns which are not directly chargeable to either passenger or freight business are to be apportioned between the two on the basis of train mileage as prescribed by the Interstate Commerce Commission. The result, therefore, is not accurate, but only approximate, and this fact must be borne in mind in drawing conclusions therefrom.

General Balance Sheet June 30, 1890.

DR.		
Cost of road,	$449,974 31	
Cost of equipment,	50,025 69	
TOTAL PERMANENT INVESTMENTS,		$500,000 00
Cash,		4,261 43
TOTAL,		$504,261 43
CR.		
Capital stock,		$250,000 00
Funded debt,		250,000 00
Profit and Loss balance,		4,261 43
TOTAL,		$504,261 43

CAPITAL STOCK.

Capital stock authorized by charter,	$250,000 00	
Capital stock authorized by votes of company,	250,000 00	
Capital stock issued (number of shares, 2,500); amount paid in,		$250,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		250,000 00
Total number of stockholders,	29	
Number of stockholders in Massachusetts,	26	
Amount of stock held in Massachusetts,	$232,200 00	

Debt.

Funded debt, as follows:		
First mortgage bonds due May 1, 1919, rate of interest 6 per cent.,		$250,000 00
Interest paid on same during year,	$12,540 00	

Passenger, Freight and Train Mileage.

Passenger traffic:	
Number of passengers carried earning revenue,	64,420
Number of passengers carried one mile,	322,100
Average distance carried,	5 miles.
Total passenger revenue,	$10,855 10
Average amount received from each passenger,	16.8 cents.
Average receipts per passenger per mile,	3.3 cents.
Passenger earnings per mile of road,	$1,206 12
Freight traffic:	
Number of tons carried of freight earning revenue,	16,947
Number of tons carried one mile,	135,536
Average distance haul of one ton,	8 miles.
Total freight revenue,	$12,349 79
Average amount received for each ton of freight,	73 cents.
Average receipts per ton per mile,	9 cents.
Freight earnings per mile of road,	$1,543 72
Passenger and freight:	
Passenger and freight earnings,	$24,583 37
Passenger and freight earnings per mile of road,	2,749 84
Expense per mile of road,	1,171 48
Total earnings per mile of road, including mails, express, etc.,	3,072 97
Train mileage:	
Miles run by passenger trains,	13,560
Miles run by freight trains,	13,868
Miles run by mixed trains,	13,984
Total mileage trains earning revenue,	41,412
Total train mileage,	41,412
Average number of persons employed,	12
Rates of fare:	
Average rate of fare per mile received for local tickets,	4 cents.
Average rate of fare per mile received for season tickets,	2 "
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies,	3.5 "
Rates of freight:	
Average rate per ton per mile received from freight way-billed jointly with other railroads and transportation companies,	9 "

Description of Road Owned.

Main line of road from North Grafton to Milford,	16 5 miles.
Main line in Massachusetts,	16.5 "
Total road belonging to this company,	16.5 "
Sidings and other tracks not before enumerated,	2.75 "
Same in Massachusetts,	2 75 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	19.25 "
Same in Massachusetts,	19.25 "
Total length of tracks laid with steel rails,	19.25 "
[Weights per yard, 50 pounds.]	
Total miles of road operated by this company,	16.50 "
Total miles of road operated by this company in Massachusetts,	16.50 "

GENERAL INFORMATION.

New Bridges of over Ten Feet Span built within the Year on Roads operated in Massachusetts (including Those replacing Old Structures and Those built where None before existed).

Location.	Description.	Length of Spans and Number of Tracks.	When and by Whom Built.
Upton, near depot.	Wooden.	21 ft., one track.	H. P. Bean, July, 1889.
Hopedale, near Union St.	Wooden.	12 ft., one track.	H. P. Bean, Sept., 1889.
Hopedale, near Union St.	Wooden.	16 ft., one track.	H. P. Bean, Sept., 1889.
Hopedale, over Main st.	Iron.	30 ft., one track.	Boston Bridge Works, Dec., 1889.

Bridges on Roads operated in Massachusetts.	
Total length of pile and trestle bridging, ...	50 feet.
Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade, ...	30
Number of crossings of highways under railroad, . . .	1
Number of highway bridges 18 feet above track, . . .	1
Number of crossings at which gates or flagman are maintained,	2
Number of crossings at which there are neither signals nor flagman, ...	28
If road was first opened for operation during the past year, state the date: From West Upton to Milford, May 17, 1890.	

DESCRIPTION OF EQUIPMENT.

	Number Owned.	Total Number.	Maximum Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.	Number Equipped with Patent Coupler.
Locomotives:						
Passenger, ...	2	2	Tons. 35	1	1	2
Freight, ...	1	1	25	-	1	-
TOTAL, ...	3	3	-	-	-	-
Passenger cars, ...	2	-	-	-	-	-
Combination cars, ...	2	-	-	-	-	-
Baggage, mail and express cars, .	2	-	-	-	-	-
TOTAL, ...	6	-	-	-	-	-
Flat freight cars, ...	1	-		-	-	-
TOTAL, ...	1	-	-	-	-	-

Number of cars in passenger equipment with 8 wheels fitted with brakes for all wheels, ...	6

Name and Residence of Officers.

Edward P. Usher, *President*, Grafton, Mass. J. Albert Walker, *Vice-President*, Boston, Mass. Charles B. Powers, *Superintendent*, Grafton, Mass. Frank W. Morse, *General Agent*, Boston, Mass. Albert G. Morse, *Treasurer and Clerk of Corporation*, Boston, Mass.

Name and Residence of Directors last elected.

E. P. Usher, Grafton, Mass. H. S. Warren, Grafton, Mass. D. N. Gibbs, Grafton, Mass. H. F. Allen, Grafton, Mass. Geo. W. Knowlton, Upton, Mass. E. H. Winchester, Portsmouth, N. H. J. A. Walker, Boston, Mass. A. G. Morse, Boston, Mass. F. W. Morse, Boston, Mass. H. B. Sprague, Lynn, Mass.

Proper Address of the Company.

GRAFTON & UPTON RAILROAD COMPANY,
23 Court Street, Room 618, Boston, Mass.

EDWARD P. USHER,
HENRY B. SPRAGUE,
ALBERT G. MORSE,
FRANK W. MORSE,
DANIEL N. GIBBS,
HERBERT F. ALLEN,
HORACE S. WARREN,
Directors.
ALBERT G. MORSE,
Treasurer.
CHARLES B. POWERS,
Superintendent.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Sept. 19, 1890. Then personally appeared Henry B. Sprague, Albert G. Morse, Frank W. Morse, Daniel N. Gibbs, Herbert F. Allen, Horace S. Warren and Charles B. Powers, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

EDWARD P. USHER,
Justice of the Peace.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Sept. 19, 1890. Then personally appeared Edward P. Usher, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge. Before me,

SAM. W. CULVER,
Justice of the Peace.

REPORT

OF THE

HOLYOKE & WESTFIELD RAILROAD COMPANY,

For the Year ending June 30, 1890.

[This road is leased to and operated by the New York, New Haven & Hartford Railroad Company.]

Income Account.

General Exhibit for the Year.

Income from lease of road,	$9,333 69	
Miscellaneous income, less expense,	429 07	
Total Income,		$9,762 76
Salaries and maintenance of organization,	$194 00	
Taxes,	1,758 43	
Total,		1,952 43
Net Income,		7,810 33
Dividends declared (3 per cent.),		7,800 00
Surplus for year ending June 30, 1890,		10 33
Balance Profit and Loss Account June 30, 1889 (surplus),		10,030 23
Total Profit and Loss Account (surplus),		10,040 56
Deduct:		
Accounts charged off,		436 43
Balance Profit and Loss Account June 30, 1890 (surplus),		9,604 13

General Balance Sheet June 30, 1890.

Dr.

Cost of road,	$522,268 89
Cash,	602 28
Due from solvent companies and individuals	6,732 96
Total,	$529,604 13

Cr.

Capital stock,	$260,000 00
Funded debt,	260,000 00
Profit and Loss balance,	9,604 13
Total,	$529,604 13

Capital Stock.

Capital stock authorized by charter,	$350,000 00	
Capital stock authorized by votes of company,	260,000 00	
Capital stock issued (number of shares, 2,600); amount paid in,		$260,000 00
Total Amount paid in as per Books of the Company,		260,000 00
Total number of stockholders,	15	
Number of stockholders in Massachusetts,	14	
Amount of stock held in Massachusetts,	$240,000 00	

DEBT.

Funded debt, as follows :		
First mortgage bonds due April, 1891, rate of interest 7 per cent.,		$200,000 00
Interest paid on same during year,	$14,000 00	
Second mortgage bonds due April, 1898, rate of interest 6 per cent.,		60,000 00
Interest paid on same during year,	$3,600 00	
TOTAL AMOUNT OF FUNDED DEBT,		$260,000 00

DESCRIPTION OF ROAD OWNED.

Main line of road from Holyoke to Westfield,	10.32 miles.
Main line of road in Massachusetts,	10.32 "
Branches owned by company, viz. :	
Mill branches (single track),	6.90 "
Total length of branches owned by company in Massachusetts,	6.90 "
Total road belonging to this company,	17.22 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	17.22 "
Same in Massachusetts,	17.22 "

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	5
Number of crossings at which gates or flagman are maintained,	2
Number of crossings at which there are neither signals nor flagman,	3

NAME AND RESIDENCE OF OFFICERS.

James Ramage, *President*. James M. Clark, *Vice-President*. A. H. Ryan, W. B. C. Pearsons, H. B. Spencer, *Auditors*. C. Fayette Smith, *Treasurer*, Holyoke, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Timothy Merrick, W. B. C. Pearsons, James Ramage, James H. Newton, James M. Clark, A. H. Ryan, H. B. Spencer, D. J. Landers, P. Monat, — all of Holyoke, Mass.

PROPER ADDRESS OF THE COMPANY.

HOLYOKE & WESTFIELD RAILROAD COMPANY,
HOLYOKE, MASS.

JAMES RAMAGE,
JAMES M. CLARK,
H. B. SPENCER,
Directors.
C. FAYETTE SMITH,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

HAMPDEN, ss. HOLYOKE, Mass., Oct. 6, 1890. Then personally appeared James Ramage, President and Director; James M. Clark, Vice-President and Director; C. Fayette Smith, Treasurer; H. B. Spencer, Director; and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

ALBION F. HITCHCOCK,
Notary Public.

REPORT

OF THE

HOOSAC TUNNEL & WILMINGTON RAILROAD COMPANY,

For the Year ending June 30, 1890.

[A narrow-gauge road.]

Income Account.

General Exhibit for the Year.

Gross earnings from operation,	$18,420 79	
Less operating expenses,	9,895 50	
Income from operation,		$8,525 29
Total Income,		8,525 29
Deductions from income:		
Interest and discount on interest-bearing current liabilities,	$3,359 10	
Taxes,	139 12	
Rentals:		
Deerfield River Company,	1,632 50	
Rolling stock,	2,400 00	
Total deductions from income,		$7,530 72
Net Income,		994 57
Surplus for year ending June 30, 1890,		994 57
Balance Profit and Loss Account June 30, 1889 (deficit),		5,059 82
Balance Profit and Loss Account June 30, 1890 (deficit),		4,065 25

Earnings from Operation.

Passenger:	
Passenger revenue,	$3,852 27
Mail,	489 47
Express,	178 24
Total Passenger Earnings,	$4,519 98
Freight:	
Freight revenue,	13,900 81
Total Passenger and Freight Earnings,	$18,420 79

Operating Expenses.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures:			
Repairs of roadway,	$644 71	$1,934 12	$2,578 83
Renewals of ties,	240 35	741 07	981 42
Repairs of telegraph,	6 77	20 33	27 10
Total,	$891 83	$2,695 52	$3,587 35

* See note on page 132.

OPERATING EXPENSES — *Concluded.*

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Conducting transportation:			
Wages of enginemen, firemen and roundhousemen,	$235 39	$706 17	$941 56
Fuel for locomotives,	209 51	628 55	838 06
All other supplies for locomotives,	124 73	374 21	498 94
Wages of other trainmen,	66 82	200 48	267 30
Wages of station agents, clerks and laborers,	537 87	1,613 64	2,151 51
Station supplies,	37 32	111 98	149 30
Loss and damage,	20 00	21 07	41 07
TOTAL,	$1,231 64	$3,656 10	$4,877 74
General expenses:			
Salaries of officers and clerks,	$250 00	$750 00	$1,000 00
Advertising,	13 39	40 16	53 55
Legal expenses,	22 50	67 50	90 00
Stationery and printing,	36 63	109 89	146 52
Other general expenses,	32 58	97 76	130 34
TOTAL,	$355 10	$1,065 31	$1,420 41
Recapitulation of expenses:			
Maintenance of way and structures,	$891 83	$2,695 52	$3,587 35
Conducting transportation,	1,231 64	3,656 10	4,887 74
General expenses,	355 10	1,065 31	1,420 41
GRAND TOTAL,	$2,478 57	$7,416 93	$9,895 50
Percentage of operating expenses to earnings,	53.72		

* The items in these columns which are not directly chargeable to either passenger or freight business are to be apportioned between the two on the basis of train mileage as prescribed by the Interstate Commerce Commission. The result, therefore, is not accurate, but only approximate, and this fact must be borne in mind in drawing conclusions therefrom.

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Grading and masonry,	$817 19
NET ADDITION TO PROPERTY ACCOUNT FOR THE YEAR,	817 19

General Balance Sheet June 30, 1890.

DR.

Cost of road,		$110,184 79
Due from solvent companies and individuals,		119 42
Profit and Loss balance,		4,065 25
TOTAL,		$114,369 46

CR.

Capital stock,		$50,000 00
Current liabilities:		
Loans and bills payable,	$62,681 96	
Interest unpaid,	1,687 50	
TOTAL CURRENT LIABILITIES,		64,369 46
TOTAL,		$114,369 46

CAPITAL STOCK.

Capital stock authorized by charter, . .	$50,000 00	
Capital stock authorized by votes of company,	50,000 00	
Capital stock issued (number of shares, 500); amount paid in, ...		$50,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		50,000 00
Total number of stockholders, ...	6	
Number of stockholders in Massachusetts, .	4	
Amount of stock held in Massachusetts, . .	$47,400 00	

PASSENGER, FREIGHT AND TRAIN MILEAGE.

Passenger traffic:	
Number of passengers carried earning revenue, . . .	9,506
Number of passengers carried one mile, ...	88,996
Average distance carried, ...	9.362 miles.
Total passenger revenue, ...	$3,852 27
Average amount received from each passenger, . . .	40.525 cents.
Average receipts per passenger per mile, ...	4.328 "
Estimated cost of carrying each passenger one mile, . .	2.785 "
Passenger earnings per mile of road, ...	$350 11
Freight traffic:	
Number of tons carried of freight earning revenue, . .	15 568
Number of tons carried one mile, ...	147,866
Average distance haul of one ton, ...	9.5 miles.
Total freight revenue, ...	$13,900 81
Average amount received for each ton of freight, . .	89.291 cents.
Average receipts per ton per mile, ...	9.669 "
Estimated cost of carrying one ton one mile, . . .	5.015 "
Freight earnings per mile of road, ...	$1,263 71
Passenger and freight:	
Passenger and freight earnings, ...	17,753 08
Passenger and freight earnings per mile of road, . .	1,613 92
Expense per mile of road, ...	899 59
Total earnings per mile of road, including mails, express, etc.,	1,674 62
Train mileage:	
Miles run by mixed trains, ...	14,300
Total mileage trains earning revenue, ...	14,300
Total train mileage, ...	14,300
Average number of persons employed, ...	16
Rates of fare:	
Average rate of fare per mile received for local tickets, .	4.5 cents.
Average rate of fare per mile received for mileage tickets,	3.3 "

DESCRIPTION OF ROAD OWNED.

Main line of road from Hoosac Tunnel to Readsborough, Vt.,	11 miles.
Main line of road in Massachusetts, ...	8 "
Main line of road in Vermont, ...	3 "
Total road belonging to this company, ...	11 "
Sidings and other tracks not before enumerated, . . .	1 mile.
Same in Massachusetts, ...	.5 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	12 miles.
Same in Massachusetts, ...	8.5 "
Total length of tracks laid with steel rails, ...	12 "
[Weights per yard, 30 pounds.]	
Total miles of road operated by this company, . . .	11 "
Total miles of road operated by this company in Massachusetts, ...	8 "
Number of stations in Massachusetts on all roads operated by this company, ...	4
Number of stations on all roads owned by this company, .	6
Same in Massachusetts, ...	4

DESCRIPTION OF EQUIPMENT.

	Number Leased.	Total Number.	Maximum Weight.	Average Weight.
Locomotives:				
Passenger, ...	2	2	15 tons.	13½ tons.
TOTAL, ...	2	2	15 tons.	13½ tons.
Combination cars, ...	4	4	est. 16,000 lbs.	est. 10,000 lbs.
TOTAL, ...	4	4	est. 16,000 lbs.	est. 10,000 lbs.
Box freight cars (basis of 8 wheels), . .	29	29	est. 12,000 lbs.	-
TOTAL, ...	29	29	est. 12,000 lbs.	-

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL (IN MASSACHUSETTS).		FROM THEIR OWN MISCONDUCT OR CARELESSNESS (IN MASSACHUSETTS).		TOTAL IN MASSACHUSETTS.		TOTAL ON WHOLE ROAD OPERATED.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, .	-	-	-	-	-	-	-	-
Employees, .	-	-	-	-	-	-	-	-
Others, . .	-	1	-	-	-	1	-	1

STATEMENT OF EACH ACCIDENT IN MASSACHUSETTS.

Car standing on the side track, near the crossing, was moved by a teamster down the track so far that the passenger coach of a train moving after dark struck the freight car and threw down and slightly injured a man standing at the end of the freight car.

NAME AND RESIDENCE OF OFFICERS.

Daniel H. Newton, *President*, Holyoke, Mass. James Ramage, *Vice-President*, Holyoke, Mass. Moses Newton, *Auditor and Superintendent*, Holyoke, Mass. John C. Newton, *Treasurer*, Holyoke, Mass. Ernest P. Cox, *Clerk of Corporation*, Holyoke, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Daniel H. Newton, Holyoke, Mass. Moses Newton, Holyoke, Mass. John C. Newton, Holyoke, Mass. James Ramage, Holyoke, Mass. George W. Millar, New York, N. Y.

PROPER ADDRESS OF THE COMPANY.

HOOSAC TUNNEL & WILMINGTON RAILROAD COMPANY,
HOLYOKE, MASS.

DANIEL H. NEWTON,
MOSES NEWTON,
JOHN C. NEWTON,
Directors.
JOHN C. NEWTON,
Treasurer.
MOSES NEWTON,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

HAMPDEN, ss. HOLYOKE, Sept. 19, 1890. Then personally appeared Daniel H. Newton, Moses Newton and John C. Newton, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

FRED. F. PARTRIDGE,
Notary Public.

REPORT

OF THE

HORN POND BRANCH RAILROAD COMPANY,

For the Year ending June 30, 1890.

[This is merely the track of an ice company, and is used for the transportation of its ice. It is operated by the Boston & Maine Railroad.]

General Balance Sheet June 30, 1890.

Dr.

Cost of road,	$15,238 46
TOTAL,	$15,238 46

Cr.

Capital stock,	$2,000 00
Profit and Loss balance,	13,238 46
TOTAL,	$15,238 46

CAPITAL STOCK.

Capital stock authorized by charter,	$40,000 00	
Capital stock authorized by votes of company,	10,000 00	
Capital stock issued (number of shares 100); amount paid in,		$2,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		2,000 00
Total number of stockholders,	9	
Number of stockholders in Massachusetts,	9	
Amount of stock held in Massachusetts,	$2,000 00	

DESCRIPTION OF ROAD OWNED.

Main line of road from Woburn Branch to Horn Pond,	.663 mile.
Main line of road in Massachusetts,	.663 "
Total road belonging to this company,	.663 "
Sidings and other tracks not before enumerated,	.076 "
Same in Massachusetts,	.076 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	.739 "
Same in Massachusetts,	.739 "

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	1
Number of crossings of highways over railroad,	1
Number of highway bridges 18 feet above track,	1
Number of crossings at which there are neither signals nor flagman,	1

Name and Residence of Officers.

Horace O. Bright, *President*, Cambridge, Mass. Frank J. Bartlett, *Treasurer*, Malden, Mass. William H. Preston, *Clerk of Corporation*, Somerville, Mass.

Name and Residence of Directors last elected.

Horace O. Bright, Cambridge, Mass. Charles O. Gage, Arlington, Mass. Nelson Bartlett, Boston, Mass. Francis Hall, Brookline, Mass. James H. Reed, Boston, Mass.

Proper Address of the Company.

HORN POND BRANCH RAILROAD COMPANY,
No. 76 State Street, Boston, Mass.

NELSON BARTLETT,
FRANCIS HALL,
CHAS. O. GAGE,
JAS. H. REED,
Directors.
FRANK J. BARTLETT,
Treasurer.

Commonwealth of Massachusetts.

Suffolk, ss. Sept. 20, 1890. Then personally appeared Frank J. Bartlett, Charles O. Gage, Francis Hall, James H. Reed and Nelson Bartlett, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

S. N. PIPER,
Notary Public.

REPORT

OF THE

LOWELL & ANDOVER RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Boston & Maine Railroad.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,	$52,500 00	
Miscellaneous income, less expense,	1,257 44	
TOTAL INCOME,		$53,757 44
Salaries and maintenance of organization,	$146 25	
Interest on funded debt,	10,680 00	
Taxes,	18 93	
TOTAL,		$10,845 18
NET INCOME,		42,912 26
Dividends declared (7 per cent.),		35,000 00
Surplus for year ending June 30, 1890,		7,912 26
Balance Profit and Loss Account June 30, 1889 (surplus),		133,277 33
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		141,189 59

General Balance Sheet June 30, 1890.

DR.	
Cost of road,	$767,075 24
Cash,	52,114 35
TOTAL,	$819,189 59
CR.	
Capital stock,	$500,000 00
Funded debt,	178,000 00
Profit and Loss balance,	141,189 59
TOTAL,	$819,189 59

CAPITAL STOCK.

Capital stock authorized by charter,	Unlimited.	
Capital stock authorized by votes of company,	$500,000 00	
Capital stock issued (number of shares 5,000); amount paid in,		$500,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		500,000 00
Total number of stockholders,	146	
Number of stockholders in Massachusetts,	132	
Amount of stock held in Massachusetts,	$461,900 00	

DEBT.

Funded debt, as follows:		
Bonds due July 1, 1894, rate of interest 6 per cent.,		$178,000 00
Interest paid on same during year,	$10,680 00	

DESCRIPTION OF ROAD OWNED.

Main line of road from Lowell to Lowell Junction in Andover,	8.73 miles.
Main line of road in Massachusetts,	8.73 "
Double track on main line,	8.73 "
Same in Massachusetts,	8.73 "
Branches owned by company, viz.:	
To Framingham & Lowell Railroad (single track),	1.15 "
To Boston & Lowell Railroad (single track),	.22 mile.
Total length of branches owned by company,	1.37 miles.
Total length of branches owned by company in Massachusetts,	1.37 "
Total road belonging to this company,	10.10 "
Sidings and other tracks not before enumerated,	3.94 "
Same in Massachusetts,	3.94 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	22.77 "
Same in Massachusetts,	22.77 "
Total length of tracks laid with steel rails,	17.46 "

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	12
Number of crossings of highways over railroad,	2
Number of crossings of highways under railroad,	1
Number of highway bridges 18 feet above track,	2
Height of lowest bridge above the rail,	18 feet.
Number of crossings at which gates or flagman are maintained,	10
Number of crossings at which there are neither signals nor flagman,	2
Number of railroad crossings over other railroads (specifying each),	2
One at Lowell, over Boston & Lowell Railroad, on Framingham Branch.	
One at Tewksbury, over Lowell & Lawrence Railroad.	

NAME AND RESIDENCE OF OFFICERS.

Frederick Ayer, *President*, Lowell, Mass. Benj. Walker, *Treasurer and Clerk of Corporation*, Lowell, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Frederick Ayer, Lowell, Mass. Arthur P. Bonney, Lowell, Mass. Jacob Nichols,* Lowell, Mass. Frederick F. Ayer, Lowell, Mass. Oliver H. Moulton, Lowell, Mass. Prescott C. Gates, Lowell, Mass. E. M. Sargent, Lowell, Mass. George Ripley, Andover, Mass. James T. Furber, Lawrence, Mass. Benj. Walker, Lowell, Mass.

---

* Deceased.

PROPER ADDRESS OF THE COMPANY.

LOWELL & ANDOVER RAILROAD COMPANY,
LOWELL, MASS.

FREDERICK AYER,
ARTHUR P. BONNEY,
GEORGE RIPLEY,
BENJ. WALKER,
PRESCOTT C. GATES,
E. M. SARGENT,
Directors.
BENJ. WALKER,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

MIDDLESEX, ss. LOWELL, July 29, 1890. Then personally appeared Frederick Ayer, Arthur P. Bonney, George Ripley, Prescott C. Gates, E. M. Sargent and Benj. Walker, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

GEO. D. HILLS,
Notary Public.

REPORT

OF THE

MORTGAGEES OF THE

MARTHA'S VINEYARD RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

INCOME ACCOUNT.

General Exhibit for the Year.

Gross earnings from operation,	$6,272 71	
Less operating expenses,	8,317 18	
Deficit from operation,		$2,044 47
Deductions from income:		
Interest on funded debt accrued during year,		2,000 00
NET DEFICIT,		4,044 47
DEFICIT FOR YEAR ENDING JUNE 30, 1890,		4,044 47

EARNINGS FROM OPERATION.

Passenger:	
Passenger revenue,	$5,584 59
Mail,	175 00
Express,	131 55
TOTAL PASSENGER EARNINGS,	$5,891 14
Freight:	
Freight revenue,	379 07
TOTAL PASSENGER AND FREIGHT EARNINGS,	$6,270 21
Other earnings from operation:	
Rentals not otherwise provided for,	2 50
TOTAL GROSS EARNINGS FROM OPERATION,	$6,272 71

OPERATING EXPENSES.

Maintenance of way and structures:	
Repairs of roadway,	$1,263 06
Repairs of buildings,	279 71
TOTAL,	$1,542 77
Maintenance of equipment:	
Repairs and renewals of locomotives,	$87 09
Repairs and renewals of baggage cars,	255 00
TOTAL,	$342 09
Conducting transportation:	
Wages of enginemen, firemen and roundhousemen,	$617 37
Fuel for locomotives,	314 83
Water supply for locomotives,	8 33

Conducting transportation — *Concluded.*	
All other supplies for locomotives,	$40 33
Wages of other trainmen,	410 25
Station supplies,	66 09
Loss and damage,	2 70
TOTAL,	$1,459 90
General expenses:	
Salaries of officers,	$3,543 26
Advertising,	42 50
Commissions,	900 00
Insurance,	18 00
Legal expenses,	300 00
Stationery and printing,	57 65
Other general expenses,	111 01
TOTAL,	$4,972 42
Recapitulation of expenses:	
Maintenance of way and structures,	$1,542 77
Maintenance of equipment,	342 09
Conducting transportation,	1,459 90
General expenses,	4,972 42
GRAND TOTAL,	$8,317 18

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$91,512 09	
Cost of equipment,	14,086 00	
Furniture,	130 39	
Lands in Edgartown,	3,371 24	
TOTAL PERMANENT INVESTMENTS,		$109,099 72

CR.

Capital stock,		$40,000 00
Funded debt,		40,000 00
Current liabilities:		
Loans and bills payable,	$3,000 00	
Wages and salaries,	3,543 26	
Accrued interest on funded debt,	7,227 76	
TOTAL CURRENT LIABILITIES,		$13,771 02
Profit and Loss balance,		15,328 70
TOTAL,		$109,099 72

CAPITAL STOCK.

Capital stock authorized by charter,	$40,000 00	
Capital stock authorized by votes of company,	40,000 00	
Capital stock issued (number of shares, 400); amount paid in,		$40,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		40,000 00
Total number of stockholders,	24	
Number of stockholders in Massachusetts,	22	
Amount of stock held in Massachusetts,	$33,700 00	

Debt.

Funded debt, as follows:	
First mortgage bonds due Nov. 19, 1894, rate of interest 5 per cent.,	$40,000 00

Passenger, Freight and Train Mileage.

Passenger traffic:	
Number of passengers carried earning revenue,	16,319
Number of passengers carried one mile,	97,914
Average distance carried,	6 miles.
Total passenger revenue,	$5,584 59
Average amount received from each passenger,	34.22 cents.
Average receipts per passenger per mile,	5.7 cents.
Passenger earnings per mile of road,	$601 79
Train mileage:	
Miles run by passenger trains,	6,606 miles.
Total train mileage,	6,606 "
Average number of persons employed,	10
Rates of fare:	
Average rate of fare per mile received for all tickets,	3.5 cents.

Description of Road Owned.

Main line of road from Cottage City to Katama,	8.33 miles.
Main line of road in Massachusetts,	8.33 miles.
Katama to South Beach (single track),	.45 mile.
Total length of branches owned by company,	.45 "
Total length of branches owned by company in Massachusetts,	.45 "
Total road belonging to this company,	8.78 miles.
Sidings and other tracks not before enumerated,	.50 mile.
Same in Massachusetts,	.50 mile.
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	9.28 miles.
Same in Massachusetts,	9.28 "
Total miles of road operated,	8.78 "
Total miles of road operated in Massachusetts,	8.78 "
Number of stations in Massachusetts on all roads operated,	4
Number of stations on all roads owned,	4
Same in Massachusetts,	4

General Information.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	5
Number of crossings at which there are neither signals nor flagman,	5

Description of Equipment.

	Number Owned.	Total Number.	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.
Locomotives:			Tons.	Tons.	
Passenger,	1	1	9	–	–
Total,	1	1	–	–	–
Passenger cars,	3	3	7	5 2–10	3
Baggage, mail and express cars,	1	1	–	–	1
Total,	4	4	–	–	–

Name and Residence of Officers.

Joseph M. Wardwell, *General Manager and Superintendent.*

Name and Residence of Directors last elected.

There has been no election of officers of the railroad since October, 1888. The Old Colony Railroad Company commenced foreclosure proceedings in the year 1890; took possession of the road and now hold the same as mortgagees, and placed myself in charge, as superintendent and general manager.

J. M. WARDWELL.

George C. Abbott, as president of the Martha's Vineyard Railroad Company, took possession of said railroad and operated the same for about two weeks previous to July 1, 1890, no report of which operation and business has been made or can be obtained by myself.

JOSEPH M. WARDWELL,
Superintendent.

Proper Address of the Company.

MARTHA'S VINEYARD RAILROAD COMPANY,
Edgartown, Mass.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Sept. 29, 1890. Then personally appeared Joseph M. Wardwell, superintendent and manager of the Martha's Vineyard Railroad Company, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

ORIN T. GRAY,
Justice of the Peace.

REPORT

OF THE

MILFORD, FRANKLIN & PROVIDENCE RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the New York & New England Railroad Company.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,		$4,929 41
TOTAL INCOME,		4,929 41
Salaries and maintenance of organization,	$34 25	
Interest on funded debt,	600 00	
TOTAL,		634 25
NET INCOME,		4,295 16
Dividends declared (4½ per cent.),		4,500 00
Deficit for year ending June 30, 1890,		204 84
Balance Profit and Loss Account June 30, 1889 (deficit),		8,026 80
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (DEFICIT),		8,231 64

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$101,255 64
Cash,	512 72
Profit and Loss balance,	8,231 64
TOTAL,	$110,000 00

CR.

Capital stock,	$100,000 00
Funded debt,	10,000 00
TOTAL,	$110,000 00

CAPITAL STOCK.

Capital stock authorized by charter,	$100,000 00	
Capital stock authorized by votes of company,	100,000 00	
Capital stock issued (number of shares, 1,000); amount paid in,		$100,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		100,000 00
Total number of stockholders,	24	
Number of stockholders in Massachusetts,	23	
Amount of stock held in Massachusetts,	$99,000 00	

DEBT.

Funded debt, as follows:		
First mortgage bonds due July 1, 1909, rate of interest 6 per cent.,		$10,000 00
Interest paid on same during year,	$600 00	

DESCRIPTION OF ROAD OWNED.

Main line of road from Bellingham to Franklin,	4.6 miles.
Main line of road in Massachusetts,	4 6 "
Total road belonging to this company,	4.6 "
Sidings and other tracks not before enumerated,	.407 mile.
Same in Massachusetts,	.407 mile.
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	5 007 miles.
Same in Massachusetts,	5 007 "

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	4
Number of crossings of highways under railroad,	2
Number of highway bridges 18 feet above track,	2
Number of crossings at which there are neither signals nor flagman,	4

NAME AND RESIDENCE OF OFFICERS.

James P. Ray, *President*, Franklin, Mass. William F. Draper, *Vice-President*, Hopedale, Mass. Joseph G. Ray, *Treasurer*, Franklin, Mass. George W. Wiggin, *Clerk of Corporation*, Franklin, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

James P. Ray, Franklin, Mass. George A. Draper, Hopedale, Mass. Joseph G Ray, Franklin, Mass. Moses Farnum, Franklin, Mass. William F. Draper, Hopedale, Mass. E. S. Draper, Hopedale, Mass. E. K. Ray, Franklin, Mass. J. F. Ray, Franklin, Mass. Geo. W. Wiggin, Franklin, Mass. James M. Freeman, Franklin, Mass. J. B. Bancroft, Hopedale, Mass.

PROPER ADDRESS OF THE COMPANY.

MILFORD, FRANKLIN & PROVIDENCE RAILROAD COMPANY,

FRANKLIN, MASS.

GEORGE W. WIGGIN,
JAMES P. RAY,
JAMES F. RAY,
JOSEPH G. RAY,
MOSES FARNUM,
JAMES M. FREEMAN,
EDGAR K. RAY,
Directors.
JOSEPH G. RAY,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

NORFOLK, ss. FRANKLIN, July 15, 1890. Then personally appeared George W. Wiggin, James P. Ray, James F. Ray, Joseph G. Ray, Moses Farnum, James M. Freeman and Edgar K. Ray, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

WILLIAM A. WYCKOFF,
Justice of the Peace.

REPORT

OF THE

MILFORD & WOONSOCKET RAILROAD COMPANY,

For the Year ending June 30, 1890.

[This road is leased to and operated by the New York & New England Railroad Company.]

Income Account.

General Exhibit for the Year.

Income from lease of road,	$7,394 14	
Interest on accounts receivable,	1,357 50	
Total Income,		$8,751 64
Salaries and maintenance of organization,	$471 21	
Interest on funded debt,	3,000 00	
Interest and discount on interest-bearing current liabilities,	108 00	
Total,		3,579 21
Net Income,		5,172 43
Dividends declared (3½ per cent.),		5,201 00
Deficit for year ending June 30, 1890,		28 57
Balance Profit and Loss Account June 30, 1889 (deficit),		15,959 19
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (DEFICIT),		15,987 76

Property Accounts: Charges and Credits during the Year.

Land purchased at Ashland,	450 00
Net Addition to Property Account for the Year,	450 00

General Balance Sheet June 30, 1890.

Dr.

Cost of road,		$171,881 13
Cash,	$6 11	
Due from solvent companies and individuals,	22,625 00	
Total Cash and Current Assets,		22,631 11
Profit and Loss balance,		15,987 76
Total,		$210,500 00

Cr.

Capital stock,	$148,600 00
Funded debt,	60,000 00
Audited vouchers and accounts,	1,900 00
Total,	$210,500 00

CAPITAL STOCK.

Capital stock authorized by charter,	$200,000 00	
Capital stock authorized by votes of company,	148,600 00	
Capital stock issued (number of shares, 1,486); amount paid in,		$148,600 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		148,600 00
Total number of stockholders,	35	
Number of stockholders in Massachusetts,	33	
Amount of stock held in Massachusetts,	$140,900 00	

DEBT.

Funded debt, as follows:		
First mortgage bonds due Dec. 1, 1908, rate of interest 5 per cent.,		$60,000 00
Interest paid on same during year,	$3,000 00	

DESCRIPTION OF ROAD OWNED.

Main line of road from Ashland to Bellingham,	15.327 miles.
Main line of road in Massachusetts,	15.327 "
Total road belonging to this company,	15.327 "
Sidings and other tracks not before enumerated,	1.900 "
Same in Massachusetts,	1.900 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	17.227 "
Same in Massachusetts,	17.227 "
Total length of tracks laid with steel rails,	5.627 "

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	21
Number of crossings of highways over railroad,	1
Number of highway bridges 18 feet above track,	1
Height of lowest bridge above the rail,	21
Number of crossings at which gates or flagman are maintained,	4
Number of crossings at which there are neither signals nor flagman,	17

NAME AND RESIDENCE OF OFFICERS.

William F. Draper, *President*, Hopedale, Mass. James E. Walker, *Treasurer*, Milford, Mass. James R. Davis, *Clerk of Corporation*, Milford, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

William F. Draper, Hopedale, Mass. Charles F. Claflin, Milford, Mass. John P. Daniels, Milford, Mass. James P. Ray, Franklin, Mass. George E. Armstrong, Boston, Mass. Eben S. Draper, Hopedale, Mass.

PROPER ADDRESS OF THE COMPANY.

MILFORD & WOONSOCKET RAILROAD COMPANY,
MILFORD, MASS.

EBEN S. DRAPER,
GEO. E. ARMSTRONG,
JAMES P. RAY,
JOHN P. DANIELS,
Directors.
JAMES E. WALKER,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

WORCESTER, SS. MILFORD, Aug. 25, 1890. Then personally appeared Eben S. Draper, George E. Armstrong, James P. Ray and John P. Daniels, directors, and James E. Walker, treasurer, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

JESSE A. TAFT,
Justice of the Peace.

REPORT

OF THE

MONADNOCK RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Cheshire Railroad Company.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,	$12,000 00	
Miscellaneous income, less expense,	455 11	
TOTAL INCOME,		$12,455 11
Salaries and maintenance of organization,	$63 50	
Interest on funded debt,	2,400 00	
Lease bought off,	450 00	
TOTAL,		2,913 50
NET INCOME,		9,541 61
Dividends declared (3 per cent.),		6,000 00
Surplus for year ending June 30, 1890,		3,541 61
Balance Profit and Loss Account June 30, 1889 (surplus),		121,391 76
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		124,933 37

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$371,701 76	
Stock of Monadnock Railroad Company,	3,090 00	
TOTAL PERMANENT INVESTMENTS,		$374,791 76
Cash,		3,541 61
TOTAL,		$378,333 37

CR.

Capital stock,		$205,400 00
Funded debt,		48,000 00
Profit and Loss balance,		124,933 37
TOTAL,		$378,333 37

CAPITAL STOCK.

Capital stock authorized by charter,	$350,000 00	
Capital stock authorized by votes of company,	250,000 00	
Capital stock issued (number of shares, 2,054); amount paid in,		$205,400 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		205,400 00
Total number of stockholders,	5	
Total number of stockholders in Massachusetts,	2	
Amount of stock held in Massachusetts,	$102,400 00	

DEBT.

Funded debt, as follows:	
First mortgage bonds due July 1, 1897, rate of interest 5 per cent.,	$48,000 00
Interest paid on same during year, . . $2,400 00	

DESCRIPTION OF ROAD OWNED.

Main line of road from Peterborough, N. H., to Winchendon, Mass.,	15.8 miles.
Main line of road in Massachusetts,	2.038 "
Main line of road in New Hampshire,	13.762 "
Total road belonging to this company,	15.8 "
Sidings and other tracks not before enumerated,	.7 mile.
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	16.5 miles.
Same in Massachusetts,	2.038 miles.

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	1
Number of crossings at which there are neither signals nor flagman,	1

NAME AND RESIDENCE OF OFFICERS.

Henry K. French, *President*, Peterborough, N. H. John H. Cutler, *Treasurer and Clerk of Corporation*, Peterborough, N. H.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Henry K. French, Peterborough, N. H. Rodney Wallace, Fitchburg, Mass. Edward C. Thayer, Keene, N. H. Henry S. Marchy, Boston, Mass. John H. Fairbank, Winchendon, Mass. Peter Upton, East Jaffrey, N. H. Oscar H. Bradley, East Jaffrey, N. H.

PROPER ADDRESS OF THE COMPANY.

MONADNOCK RAILROAD COMPANY,
PETERBOROUGH, N. H.

HENRY K. FRENCH,
For the Directors.
JOHN H. CUTLER,
Treasurer.

STATE OF NEW HAMPSHIRE.

HILLSBOROUGH, ss. Aug. 25, 1890. Then personally appeared Henry K. French and John H. Cutler, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

JOHN R. MILLER,
Justice of the Peace.

REPORT

OF THE

LESSEES OF THE

MONADNOCK RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

INCOME ACCOUNT.

General Exhibit for the Year.

Gross earnings from operation,	$40,966 43	
Less operating expenses,	26,609 74	
Income from operation,		$14,356 69
Miscellaneous income, less expenses,		952 67
TOTAL INCOME,		15,309 36
Deductions from income:		
Taxes,	$1,730 62	
Rentals, Monadnock Railroad,	12,000 00	
Total deductions from income,		$13,730 62
NET INCOME,		1,578 74
Surplus for year ending June 30, 1890,		1,578 74

EARNINGS FROM OPERATION.

ITEMS.	Total Receipts.	Deductions Account of Repayments, etc.	Actual Earnings.
Passenger:			
Passenger revenue,	$12,266 18		
Less repayments:			
Excess fares refunded,		$96 95	
TOTAL PASSENGER REVENUE,			$12,169 23
Mail,			935 60
Express,			1,000 00
TOTAL PASSENGER EARNINGS,			$14,104 83
Freight:			
Freight revenue,	$26,861 60		
TOTAL GROSS EARNINGS FROM OPERATION,			$40,966 43

OPERATING EXPENSES.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures:			
Repairs of roadway,	$4,140 90	$3,753 15	$7,894 05
Renewals of rails,	351 95	319 00	670 95
Renewals of ties,	2,232 15	2,023 14	4,255 29
Repairs of fences, road crossings, signs and cattle guards,	95 57	86 60	182 17
Repairs of buildings,	62 24	56 41	118 65
TOTAL,	$6,882 81	$6,238 30	$13,121 11
Maintenance of equipment:			
Repairs and renewals of locomotives,	$360 11	$326 38	$686 49
Repairs and renewals of passenger cars,	361 36	327 53	688 89
Repairs and renewals of freight cars,	20 68	18 75	39 43
TOTAL,	$742 15	$672 66	$1,414 81
Conducting transportation:			
Wages of enginemen, firemen and roundhousemen,	$948 00	$897 35	$1,845 35
Fuel for locomotives,	1,934 74	1,753 58	3,688 32
Water supply for locomotives,	56 39	51 11	107 50
All other supplies for locomotives,	92 92	84 22	177 14
Wages of other trainmen,	1,163 83	1,002 71	2,166 54
All other train supplies,	26 70	5 00	31 70
Expense of telegraph, including train despatchers and operators,	6 29	5 71	12 00
Wages of station agents, clerks and laborers,	1,301 96	1,180 04	2,482 00
Station supplies,	3 96	3 59	7 55
Loss and damage,	10 24	9 28	19 52
Other expenses,	16 20	-	16 20
TOTAL,	$5,561 23	$4,992 59	$10,553 82
General expenses:			
Salaries of officers,	$314 74	$285 26	$600 00
Salaries of clerks,	314 74	285 26	600 00
Advertising,	10 49	9 51	20 00
Stationery and printing,	157 37	142 63	300 00
TOTAL,	$797 34	$722 66	$1,520 00
Recapitulation of expenses:			
Maintenance of way and structures,	$6,882 81	$6,238 30	$13,121 11
Maintenance of equipment,	742 15	672 66	1,414 81
Conducting transportation,	5,561 23	4,992 59	10,553 82
General expenses,	797 34	722 66	1,520 00
GRAND TOTAL,	$13,983 53	$12,626 21	$26,609 74

---

* The items in these columns which are not directly chargeable to either passenger or freight business are to be apportioned between the two on the basis of train mileage as prescribed by the Interstate Commerce Commission. The result, therefore, is not accurate, but only approximate, and this fact must be borne in mind in drawing conclusions therefrom.

PASSENGER, FREIGHT AND TRAIN MILEAGE.

Passenger traffic:	
Number of passengers carried earning revenue,	31,755
Number of passengers carried one mile,	334,562
Average distance carried,	10 miles.
Total passenger revenue,	$12,169 23
Average amount received from each passenger,	38 3 cents.
Average receipts per passenger per mile,	3.6 "
Passenger earnings per mile of road,	$881 55
Passenger earnings per train mile,	89 cents.

Freight traffic:	
Number of tons carried of freight earning revenue, . .	53,133
Number of tons carried one mile, ...	753,672
Average distance haul of one ton, ...	14 miles.
Total freight revenue, ...	$26,861 60
Average amount received for each ton of freight, . .	50.56 cents.
Average receipts per ton per mile, ...	3.564 "
Estimated cost of carrying one ton one mile,* . . .	1.671 "
Freight earnings per mile of road, ...	$1,678 85
Passenger and freight:	
Passenger and freight earnings, ...	$39,030 83
Passenger and freight earnings per mile of road, . .	2,439 43
Expense per mile of road, ...	2,426 92
Total earnings per mile of road, including mails, express, etc., ...	2,560 40
Train mileage:	
Miles run by passenger trains, ...	15,720
Miles run by freight trains, ...	14,248
Total mileage trains earning revenue, ...	29,968
Miles run by switching trains, ...	2,700
Miles run by construction and other trains, . . .	1,300
Total train mileage, ...	33,968
Average number of persons employed, ...	25
Rates of fare:	
Average rate of fare per mile received for local tickets, .	3.3 cents.
Average rate of fare per mile received for mileage tickets,	2 "
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies, ...	4.1 "
Rates of freight:	
Average rate per ton per mile received from freight way-billed local, ...	11.60 "
Average rate per ton per mile received from freight way-billed jointly with other railroads and transportation companies, ...	3.985 "

DESCRIPTION OF ROAD.

Total miles of road operated by the lessees, ...	15.8 miles.
Total miles of road operated by the lessees in Massachusetts,	2.038 "

WM. A. RUSSELL,
EDWARD C. THAYER,
WILLIAM H. HILL,
A. N. BURBANK,
Directors.
F. H. KINGSBURY,
Treasurer.
R. STEWART,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Oct. 10, 1890. Then personally appeared Wm. A. Russell, Edward C. Thayer, Wm. H. Hill, A. W. Burbank and R. Stewart, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

GEORGE O. G COALE,
Notary Public.

---

* See note under "Operating Expenses."

REPORT

OF THE

NANTUCKET RAILROAD COMPANY,

For the Year ending June 30, 1890.

[A narrow-gauge road.]

Income Account.

General Exhibit for the Year.

Gross earnings from operation,	$7,096 62	
Less operating expenses,	6,826 90	
Income from operation,		$269 72
Deductions from income:		
Interest on funded debt accrued during year,	$1,160 00	
Taxes,	22 20	
Total deductions from income,		$1,182 20
Deficit for year ending June 30, 1890,		912 48
Balance Profit and Loss Account June 30, 1889 (surplus),		3,031 60
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		2,119 12

Earnings from Operation.

Passenger:	
Passenger revenue,	$6,508 10
Mail,	160 41
TOTAL PASSENGER EARNINGS,	$6,668 51
Freight:	
Freight revenue,	$428 11
TOTAL GROSS EARNINGS FROM OPERATION,	7,096 62

Operating Expenses.

Maintenance of way and structures:	
Repairs of roadway,	$1,388 45
Renewals of rails,	750 00
Renewals of ties,	1,251 80
TOTAL,	$3,390 25
Maintenance of equipment:	
Repairs and renewals of locomotives,	$594 35
Repairs and renewals of passenger cars,	103 06
TOTAL,	$697 41
Conducting transportation:	
Wages of enginemen, firemen and roundhousemen,	$709 32
Fuel for locomotives,	562 14
Water supply for locomotives,	100 00
All other supplies for locomotives,	75 40
Wages of other trainmen,	472 58
All other train supplies,	15 10
Wages of station agents, clerks and laborers,	54 00
Station supplies,	5 45
TOTAL,	$1,993 99

General expenses:	
Salaries of officers,	$250 00
General office expenses and supplies,	310 00
Insurance,	90 00
Legal expenses,	55 00
Stationery and printing,	40 25
TOTAL,	$745 20

Recapitulation of expenses:	
Maintenance of way and structures,	$3,390 25
Maintenance of equipment,	697 41
Conducting transportation,	1,993 99
General expenses,	745 25
GRAND TOTAL,	$6,826 90

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$88,568 42	
Cost of equipment,	14,413 18	
TOTAL PERMANENT INVESTMENTS,		$102,981 60
Cash,		137 52
TOTAL,		$103,119 12

CR.

Capital stock,	$84,000 00
Funded debt,	17,000 00
Profit and Loss balance,	2,119 12
TOTAL,	$103,119 12

CAPITAL STOCK.

Capital stock authorized by charter,	$100,000 00	
Capital stock authorized by votes of company,	84,000 00	
Capital stock issued (number of shares, 840); amount paid in,		$84,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		84,000 00
Total number of stockholders,	44	
Number of stockholders in Massachusetts,	38	
Amount of stock held in Massachusetts,	$73,300 00	

DEBT.

Funded debt, as follows:	
First mortgage bonds due 1890, rate of interest 7 per cent.,	$17,000 00

PASSENGER, FREIGHT AND TRAIN MILEAGE.

Passenger traffic:	
Number of passengers carried earning revenue,	21,020
Number of passengers carried one mile,	231,220
Train mileage:	
Miles run by passenger trains,	9,284 miles.
Total train mileage,	9,284 miles.
Average number of persons employed,	15

DESCRIPTION OF ROAD OWNED.	
Main line of road from Nantucket to Siasconset, . . .	11.16 miles.
Main line of road in Massachusetts, ...	11.16 "
Total road belonging to this company, ...	11.16 "
Sidings and other tracks not before enumerated, . . .	.08 mile.
Same in Massachusetts, ...	.08 mile.
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	11.24 miles.
Same in Massachusetts, ...	11.24 "
Total miles of road operated by this company, . . .	11.16 "
Total miles of road operated by this company in Massachusetts, ...	11.16 "
GENERAL INFORMATION.	
Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade, ...	1
Number of crossings at which gates or flagman are maintained,	1
DESCRIPTION OF EQUIPMENT.	
Locomotives:	
Passenger, ...	2
Passenger cars, ...	3
Combination cars, ...	1
Flat freight cars (basis of 8 wheels), ...	2
Other freight cars (basis of 8 wheels), ...	1

NAME AND RESIDENCE OF OFFICERS.

Jonathan Dorr, *President*, Boston, Mass. P. H. Folger, *Superintendent*, Boston, Mass. John H. Norton, *Treasurer and Clerk of Corporation*, Boston, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Jonathan Dorr, Boston, Mass. John H. Norton, Boston, Mass. C. H. Folger, Boston, Mass. H. E. Sheldon, Boston, Mass. Jas. W. Cartwright, Boston, Mass.

PROPER ADDRESS OF THE COMPANY.

NANTUCKET RAILROAD COMPANY,
31 MILK STREET, BOSTON, MASS.

JONATHAN DORR,
JOHN H. NORTON,
PHILIP H. FOLGER,
JAS. W. CARTWRIGHT,
Directors.
JOHN H. NORTON,
Treasurer.
PHILIP H. FOLGER,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS. Sept. 24, 1890. Then personally appeared Jonathan Dorr, John H. Norton, P. H. Folger and James W. Cartwright, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

S. K. HAMILTON,
Justice of the Peace.

REPORT

OF THE

TRUSTEE FOR THE BONDHOLDERS OF THE NANTASKET BEACH RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Old Colony Railroad Company.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,	$6,250 00	
TOTAL INCOME,		$6,250 00
Interest on funded debt,		6,250 00

General Balance Sheet June 30, 1890.

DR.	
Cost of road,	$250,000 00
TOTAL,	$250,000 00
CR.	
Funded debt,	$250,000 00
TOTAL,	$250,000 00

DESCRIPTION OF ROAD OWNED.

Main line of road from Pemberton to Old Colony House,	6.933 miles.
Main line of road in Massachusetts,	6.933 "
Total road belonging to this company,	6.933 "
Sidings and other tracks not before enumerated,	2.535 "
Same in Massachusetts,	2.535 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	9.468 "
Same in Massachusetts,	9.468 "
Total length of tracks laid with steel rails,	6.933 "

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade, ...	4
Number of crossings at which gates or flagman are maintained, ...	2
Number of crossings at which there are neither signals nor flagman, ...	2

ARTHUR W. MOORS,
Trustee.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Sept. 16, 1890. Then personally appeared the above-named Arthur W. Moors, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

JOHN L. CURTISS,
Justice of the Peace.

REPORT

OF THE

NASHUA, ACTON & BOSTON RAILROAD COMPANY,

For the Year ending June 30, 1890.

[This road is leased to and operated by the Concord & Montreal Railroad Company of New Hampshire.]

Income Account.

General Exhibit for the Year.

Interest on funded debt,	$30,000 00
Deficit for year ending June 30, 1890,	30,000 00
Balance Profit and Loss Account June 30, 1889 (deficit),	481,694 29
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (DEFICIT),	511,694 29

General Balance Sheet June 30, 1890.

Dr.

Cost of road,		$1,057,031 20
Due from solvent companies and individuals,		6,257 41
Profit and Loss balance,		511,694 29
TOTAL,		$1,574,982 90

Cr.

Capital stock,		$500,000 00
Funded debt,		500,000 00
Current liabilities:		
Loans and bills payable,	$105,509 90	
Matured interest coupons unpaid (including coupons due July 1),	469,473 00	
TOTAL CURRENT LIABILITIES,		574,982 90
TOTAL,		$1,574,982 90

Capital Stock.

Capital stock authorized by charter,	$600,000 00	
Capital stock authorized by votes of company,	500,000 00	
Capital stock issued (number of shares, 4,981); amount paid in,		$498,100 00
Capital stock paid in on shares not issued (number of shares, 19),		1,900 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		500,000 00
Total number of stockholders,	177	
Number of stockholders in Massachusetts,	90	
Amount of stock held in Massachusetts,	$86,600 00	

DEBT.	
Funded debt, as follows:	
First mortgage bonds due 1896, rate of interest, 6 per cent.,	$500,000 00
DESCRIPTION OF ROAD OWNED.	
Main line of road from Nashua to North Acton, ...	20.83 miles.
Main line of road in Massachusetts, ...	16.26 "
Main line of road in New Hampshire, ...	4.57 "
Total road belonging to this company, ...	20.83 "
Sidings and other tracks not before enumerated, . . .	3.34 "
Same in Massachusetts, ...	1.68 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	24.17 "
Same in Massachusetts, ...	17 94 "
Total length of tracks laid with steel rails, ...	20.83 "
[Weights per yard, 67 pounds.]	
GENERAL INFORMATION.	
Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade, ...	2
Number of crossings of highways over railroad, . . .	3
Number of highway bridges 18 feet above track, . . .	3
Height of lowest bridge above the rail, ...	18 feet.
Number of crossings at which there are neither signals nor flagman, ...	2
Number of railroad crossings at grade (specifying each), .	2
Boston & Maine Railroad at Nashua Junction, N. H.	
Number of railroad crossings over other railroads (specifying each), ...	1
Stony Brook Railroad, near Graniteville station.	

NAME AND RESIDENCE OF OFFICERS.

John C. Moulton, *President*, Laconia, N. H. Frank D. Cook, *Treasurer*, Nashua, N. H. Harry M. Cavis, *Clerk of Corporation*, Concord, N. H.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

John C. Moulton, Laconia, N. H. Elbridge P. Brown, Nashua, N. H. Benj. A. Kimball, Concord, N. H. Charles Williams, Manchester, N. H. John H. Pearson, Concord, N. H. John L. Stevens, Manchester, N. H. Frederick Smyth, Manchester, N. H. Joseph F. Kenward, Manchester, N. H. Edward H. Spaulding, Wilton, N. H. George A. Wason, Nashua, N. H. Daniel R. Marshall, Nashua, N. H. Josiah M. Fletcher, Nashua, N. H.

PROPER ADDRESS OF THE COMPANY.

NASHUA, ACTON & BOSTON RAILROAD COMPANY
(Frank D. Cook, Treasurer),
NASHUA, N. H.

Correct according to best information furnished.

FRANK D. COOK,
Treasurer.

By JOHN F. WEBSTER,
Treasurer, The Concord & Montreal Railroad, Concord, N. H.

REPORT

OF THE

NASHUA & LOWELL RAILROAD COMPANY,

For the Year ending June 30, 1890.

[This road is leased to and operated by the Boston & Maine Railroad.]

Income Account.

General Exhibit for the Year.

Income from lease of road,	$73,000 00	
Interest on notes owned,	17,000 00	
Interest on stock owned,	800 00	
Miscellaneous income, less expense,	289 74	
Total Income,		$91,089 74
Salaries and maintenance of organization,	$1,585 00	
Interest on funded debt,	17,000 00	
Interest and discount on interest-bearing current liabilities,	31 24	
Total,		18,616 24
Net Income,		72,473 50
Dividends declared (9 per cent.),		72,000 00
Surplus for year ending June 30, 1890,		473 50
Balance Profit and Loss Account June 30, 1889 (surplus),		119,065 03
Total Profit and Loss Account (surplus),		119,538 53
Deduct:		
Legal expenses,	$7,701 57	
Legal expenses,	820 00	
Adjustment of claims,	447 00	
		8,968 57
Balance Profit and Loss Account June 30, 1890 (surplus),		110,569 96

General Balance Sheet June 30, 1890.

Dr.

Cost of road,	$691,167 07	
Cost of equipment,	218,242 95	
Total Permanent Investments,		$909,410 02
Cash,	$3,009 94	
Bills receivable,	300,000 00	
Due from solvent companies and individuals,	5,000 00	
Total Cash and Current Assets,		308,009 94
Sinking fund,		11,111 50
Total,		$1,228,531 46

CR.

Capital stock,		$800,000 00
Funded debt,		300,000 00
Current liabilities:		
Loans and bills payable,	$7,800 00	
Dividends not called for,	2,193 50	
Matured interest coupons unpaid (including coupons due July 1),	2,968 00	
Accrued interest on funded debt not yet payable,	5,000 00	
TOTAL CURRENT LIABILITIES,		17,961 50
Profit and Loss balance,		110,569 96
TOTAL,		$1,228,531 46

Current Liabilities and Assets.

CURRENT LIABILITIES ACCRUING UP TO AND INCLUDING JUNE 30, 1890.

Dividends not called for,	$2,193 50
Matured interest coupons unpaid (including coupons due July 1),	2,968 00
TOTAL,	$5,161 50

CASH AND CURRENT ASSETS AVAILABLE FOR PAYMENT OF CURRENT LIABILITIES.

Cash,	$3,009 94
Balance net current liabilities,	2,151 56
TOTAL,	$5,161 50

CAPITAL STOCK.

Capital stock authorized by charter,	$800,000 00	
Capital stock authorized by votes of company,	800,000 00	
Capital stock issued (number of shares, 8,000); amount paid in,		$800,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		800,000 00
Total number of stockholders,	395	
Number of stockholders in Massachusetts,	183	
Amount of stock held in Massachusetts,	$530,400 00	

DEBT.

Funded debt as follows:		
Gold bonds due Aug. 1, 1893, rate of interest 6 per cent.,		$200,000 00
Interest paid on same during year,	$12,000 00	
Bonds due July 1, 1900, rate of interest 5 per cent.,		100,000 00
Interest paid on same during year,	$5,000 00	
TOTAL AMOUNT OF FUNDED DEBT,		$300,000 00

DESCRIPTION OF ROAD OWNED.

Main line of road from Nashua to Lowell,	14.50 miles.
Main line of road in Massachusetts,	9.25 "
Main line of road in New Hampshire,	5.25 "
Double track on main line,	14.50 "
Same in Massachusetts,	9.25 "
Total road belonging to this company,	14.50 "
Sidings and other tracks not before enumerated,	10.30 "
Same in Massachusetts,	5.61 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	39.30 "
Same in Massachusetts,	24.11 "

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	5
Number of crossings of highways over railroad,	2
Number of crossings of highways under railroad,	2
Number of highway bridges 18 feet above track,	1
Number of highway bridges less than 18 feet above track,	1
Height of lowest bridge above the rail,	17 ft. 11 in.
Number of crossings at which there are neither signals nor flagman,	5

NAME AND RESIDENCE OF OFFICERS.

Francis A. Brooks, *President*, Boston, Mass. J. W. White, *Treasurer*, Nashua, N. H. Walter A. Lovering, *Clerk of Corporation*, Nashua, N. H.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Francis A. Brooks, Boston, Mass. Gedney K. Richardson, Boston, Mass. Jeremiah W. White, Nashua, N. H. William W. Bailey, Nashua, N. H. C. E. A. Bartlett, Chelmsford, Mass.

PROPER ADDRESS OF THE COMPANY.

NASHUA & LOWELL RAILROAD CORPORATION,
NASHUA, N. H.

FRANK JONES,
JAS. T. FURBER,
JOSEPH S. RICKER,
GEORGE C. LORD,
WM. S. STEVENS,
Directors of Boston & Maine Railroad.
J. W. WHITE,
Treasurer of Nashua & Lowell Railroad.

STATE OF NEW HAMPSHIRE.

HILLSBOROUGH, SS. July 18, 1890. Then personally appeared J. W. White, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

F. A. EATON,
Justice of the Peace.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS. Aug. 26, 1890. Then personally appeared the above-named Frank Jones, Jas. T. Furber, Joseph S. Ricker, George C. Lord and William S. Stevens, and severally made oath to the truth of the foregoing statement by them subscribed according, to their best knowledge and belief.

SIGOURNEY BUTLER,
Justice of the Peace.

REPORT

OF THE

NEWBURYPORT RAILROAD,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Boston & Maine Railroad. Its operations are included in the report of that road, its business being so intimately connected that separate accounts have not been kept.]

General Balance Sheet June 30, 1890.

Dr.	
Cost of road,	$597,386 33
TOTAL,	$597,386 33
Cr.	
Capital stock,	$220,340 02
Funded debt,	300,000 00
Audited vouchers and accounts,	77,046 31
TOTAL,	$597,386 33

Current Liabilities and Assets.

CURRENT LIABILITIES ACCRUING UP TO AND INCLUDING JUNE 30, 1890.	
Audited vouchers and accounts,	$77,046 31
TOTAL,	$77,046 31
CASH AND CURRENT ASSETS AVAILABLE FOR PAYMENT OF CURRENT LIABILITIES.	
Balance net current liabilities,	$77,046 31
TOTAL,	$77,046 31

CAPITAL STOCK.

Capital stock authorized by charter,	$430,000 00	
Capital stock authorized by votes of company,	202,100 00	
Capital stock issued (number of shares, 2,021); amount paid in,		$202,100 00
Capital stock paid in on shares not issued,		18,240 02
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		220,340 02

Description of Road Owned.

Main line of road from Bradford to Newburyport and from Georgetown to Danvers,	26.979 miles.
Main line of road in Massachusetts,	26.979 "
Total road belonging to this company,	26.979 "
Sidings and other tracks not before enumerated,	3.132 "
Same in Massachusetts,	3.132 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	30.111 "
Same in Massachusetts,	30.111 "
Total length of tracks laid with steel rails,	26.532 "

General Information.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	28
Number of crossings of highways over railroad,	1
Number of crossings of highways under railroad,	1
Number of highway bridges less than 18 feet above track,	1
Height of lowest bridge above the rail,	14½ feet.
Number of crossings at which gates or flagman are maintained,	13
Number of crossings at which there are neither signals nor flagman,	15

Name and Residence of Officers.

George C. Lord, *President*, Newton, Mass. Jas. T. Furber, *General Manager*, Lawrence, Mass. Wm. J. Hobbs, *Auditor*, Malden, Mass. Wm. Merritt, *Superintendent*, Boston, Mass. W. F. Berry, *General Freight Agent*, Winchester, Mass. D. J. Flanders, *General Passenger Agent*, Malden, Mass. Amos Blanchard, *Treasurer*, Andover, Mass. Sigourney Butler, *Clerk of Corporation*, Quincy, Mass.

Name and Residence of Directors last elected.

George C. Lord, Newton, Mass. Amos Paul, South Newmarket, N. H. Wm. S. Stevens, Dover, N. H. Jos. S. Ricker, Deering, Me. Sam'l C. Lawrence, Medford, Mass. Frank Jones, Portsmouth, N. H.

Proper Address of the Company.

NEWBURYPORT RAILROAD,
Boston, Mass.

GEORGE C. LORD,
FRANK JONES,
WM. S. STEVENS,
JOSEPH S. RICKER,
Directors.
HERBERT E. FISHER,
Assistant Treasurer.
JAS. T. FURBER,
General Manager.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Aug. 26, 1890. Then personally appeared George C. Lord, Frank Jones, Wm. S. Stevens, Joseph S. Ricker, Jas. T. Furber and Herbert E. Fisher, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

SIGOURNEY BUTLER,
Justice of the Peace.

REPORT

OF THE

NEWBURYPORT CITY RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Boston & Maine Railroad.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,	$6,000 00	
Miscellaneous income, less expense,	912 07	
TOTAL INCOME,		$6,912 07
Salaries and maintenance of organization,	$208 05	
Interest on funded debt,	1,750 00	
Taxes,	936 36	
TOTAL,		$2,894 41
NET INCOME,		4.017 66
Dividends declared (3¼ per cent.),		3,152 50
Surplus for year ending June 30, 1890,		865 16
Balance Profit and Loss Account June 30, 1889 (surplus),		18,338 15
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		19,203 31

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$122,128 33
Cash,	61
Sinking fund,	19,074 37
TOTAL,	$141,203 31

CR.

Capital stock,	$97,000 00
Funded debt,	25,000 00
Profit and Loss balance,	19,203 31
TOTAL,	$141,203 31

CAPITAL STOCK.

Capital stock authorized by charter,	$100,000 00	
Capital stock authorized by votes of company,	100,000 00	
Capital stock issued (number of shares, 970); amount paid in,		$97,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		97,000 00
Total number of stockholders,	30	
Number of stockholders in Massachusetts,	29	
Amount of stock held in Massachusetts,	$96,000 00	

DEBT.

Funded debt, as follows :		
Bonds due 1892, rate of interest 7 per cent.,		$25,000 00
Interest paid on same during year,	$1,750 00	

DESCRIPTION OF ROAD OWNED.

Main line of road from Boston & Maine Railroad crossing to city wharf,	2.08 miles.
Main line of road in Massachusetts,	2.08 "
Double track on main line,	.15 mile.
Same in Massachusetts,	.15 "
Total road belonging to this company,	2.08 miles.
Sidings and other tracks not before enumerated,	1.80 "
Same in Massachusetts,	1.80 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	4.03 "
Same in Massachusetts,	4.03 "

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	4
Number of crossings of highways over railroad,	3
Number of highway bridges 18 feet above track,	3
Number of crossings at which gates or flagman are maintained,	2
Number of crossings at which there are neither signals nor flagman,	2

NAME AND RESIDENCE OF OFFICERS.

Albert Currier, *President*, Newburyport, Mass. Albert W. Greenleaf, *Treasurer and Clerk of Corporation*, Newburyport, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Albert Currier, Newburyport, Mass. Elisha P. Dodge, mayor, Newburyport, Mass. Moses H. Fowler, Newburyport, Mass. Henry M. Cross, Newburyport, Mass. Philip H. Blumpey, Newburyport, Mass. Henry B. Little, Newburyport, Mass. Hale Knight, Newburyport, Mass.

PROPER ADDRESS OF THE COMPANY.

NEWBURYPORT CITY RAILROAD COMPANY,
NEWBURYPORT, MASS.

E. P. DODGE, MAYOR,
MOSES H. FOWLER,
ALBERT CURRIER,
HALE KNIGHT,
P. H. BLUMPEY,
Directors.
ALBERT W. GREENLEAF,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

ESSEX, ss. Aug. 14, 1890. Then personally appeared E. P. Dodge, mayor, Moses H. Fowler, Albert Currier, Hale Knight and P. H. Blumpey, a majority of the Board of Directors, and Albert W. Greenleaf, treasurer, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

GEORGE H. STEVENS,
Justice of the Peace.

REPORT

OF THE

NEW HAVEN & NORTHAMPTON COMPANY,

For the Year ending June 30, 1890.

[This road is leased to and operated by the New York, New Haven & Hartford Railroad Company.]

Income Account.

General Exhibit for the Year.

Income from lease of road,		$329,450 32	
Interest on stock owned:			
Holyoke & Westfield Railroad Company,		600 00	
Southington Water Company,		50 00	
Total Income,			$330,100 32
Salaries and maintenance of organization,		$548 70	
Interest on funded debt,		233,000 00	
Taxes,		22,292 82	
Rent of Holyoke & Westfield Railroad:			
Interest on bonds,	$17,600 00		
Fifty per cent. net earnings,	9,457 50		
		27,057 50	
Total,			$282,899 02
Net Income,			47,201 30
Dividends declared (1 per cent.),			24,600 00
Three payments to sinking fund,			22,500 00
Surplus for year ending June 30, 1890,			101 30
Balance Profit and Loss Account June 30, 1889 (surplus),			385,766 33
Total Profit and Loss Account (surplus),			385,867 63
Deduct: Error in 1889 of one item entered twice,			824 50
Balance Profit and Loss Account June 30, 1890 (surplus),			385,043 13

General Balance Sheet June 30, 1890.

Dr.

Cost of road,	$5,730,762 12	
Cost of equipment,	850,430 62	
Stock of Holyoke & Westfield Railroad Co.,	20,000 00	
Stock of Southington Water Company,	1,000 00	
Total Permanent Investments,		$6,602,192 74
Cash,		400 39
Sinking fund,		165,000 00
Total,		$6,767,593 13

Cr.

Capital stock,	$2,460,000 00
Funded debt,	3,900,000 00
Wages and salaries,	50 00
Profit and Loss balance,	*407,543 13
TOTAL,	$6,767,593 13

CAPITAL STOCK.

Capital stock authorized by charter,	$5,000,000 00	
Capital stock authorized by votes of company,	2,600,000 00	
Capital stock issued (number of shares, 24,600); amount paid in,		$2,460,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		2,460,000 00
Total number of stockholders,	223	
Number of stockholders in Massachusetts,	37	
Amount of stock held in Massachusetts,	$140,100 00	

DEBT.

Funded debt, as follows:		
First mortgage bonds due July 1, 1899, rate of interest 7 per cent.,		$1,300,000 00
Interest paid on same during year,	$91,000 00	
Mortgage and sinking fund bonds due Jan. 1, 1909, rate of interest 6 per cent.,		1,200,000 00
Interest paid on same during year,	$72,000 00	
Northern extension bonds due April 1, 1911, rate of interest 5 per cent.,		700,000 00
Interest paid on same during year,	$35,000 00	
Convertible bonds due 1896, rate of interest 5 per cent.,		700,000 00
Interest paid on same during year,	$35,000 00	
TOTAL AMOUNT OF FUNDED DEBT,		$3,900,000 00

DESCRIPTION OF ROAD OWNED.

Main line of road from New Haven, Conn., to Conway Junction, Mass.,	94.64 miles.
Main line of road in Massachusetts,	43.38 "
Main line of road in Connecticut,	51.26 "
Branches owned by company, viz.:	
Farmington to New Hartford, Conn. (single track),	14.09 "
Simsbury to Tariffville, Conn. (single track),	1.04 "
Northampton to Williamsburg, Mass. (single track),	7.51 "
South Deerfield to Turner's Falls, Mass. (single track),	10.07 "
Total length of branches owned by company,	32.71 "
Total length of branches owned by company in Massachusetts,	17.58 "
Total length of branches owned by company in Connecticut,	15.13 "
Total road belonging to this company,	127.35 "
Sidings and other tracks not before enumerated,	35.77 "
Same in Massachusetts,	16 35 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	163.12 "
Same in Massachusetts,	77.31 "
Total length of tracks laid with steel rails,	126.31 "

---

* Includes $22,500 in sinking fund.

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade, ...	47
Number of crossings of highways over railroad, . . .	19
Number of crossings of highways under railroad, . . .	24
Number of highway bridges 18 feet above track, . . .	15
Number of highway bridges less than 18 feet above track, .	4
Number of crossings at which gates or flagman are maintained, ...	4
Number of crossings at which electric signals are maintained,	1
Number of crossings at which there are neither signals nor flagman, ...	42
Number of railroad crossings at grade (specifying each), . Boston & Albany at Westfield.	1

NAME AND RESIDENCE OF OFFICERS.

Charles N. Yeamans, *President and Superintendent*, Westfield, Mass. Edward A. Ray, *Treasurer and Clerk of Corporation*, New Haven, Conn.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Charles N. Yeamans, Westfield, Mass. Charles M. Pond, Hartford, Conn. George J. Brush, New Haven, Conn. E. H. Trowbridge, New Haven, Conn. Daniel Trowbridge, New Haven, Conn. Edward M. Reed, New Haven, Conn. Horatio G. Knight, Easthampton, Mass. Charles P. Clark, New Haven, Conn. A. Heaton Robertson, New Haven, Conn.

PROPER ADDRESS OF THE COMPANY.

THE NEW HAVEN & NORTHAMPTON COMPANY
(Union Passenger Station),
NEW HAVEN, CONN.

CHAS. N. YEAMANS,
EDWARD M. REED,
E. H. TROWBRIDGE,
CHARLES P. CLARK,
DANIEL TROWBRIDGE,
GEO. J. BRUSH,
Directors.
EDWARD A. RAY,
Treasurer.

COMMONWEALTH OF CONNECTICUT.

NEW HAVEN COUNTY, ss. Sept. 5, 1890. Then personally appeared Charles N. Yeamans, Edward M. Reed, E. H. Trowbridge, Charles P. Clark, Daniel Trowbridge and H. J. Brush, directors, and Edward A. Ray, treasurer, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

A. S. MAY,
Notary Public.

REPORT

OF THE

NEW LONDON NORTHERN RAILROAD COMPANY,

For the Year ending June 30, 1890.

[This road is leased to and operated by the Consolidated Railroad Company of Vermont.]

Income Account (Lessees' Account).

General Exhibit for the Year.

Gross earnings from operation,	$598,384 60	
Less operating expenses,	406,136 91	
Income from operation,		$192,247 69
Rent of buildings, etc.,		9,887 55
Total Income,		$202,135 24
Deductions from income:		
Interest and discount on interest-bearing current liabilities,	$439 30	
Taxes (including State),	24,638 39	
Rentals:		
New London Northern Railroad Company,	155,500 00	
Interest improvement account,	33,706 70	
Total deductions from income,		$214,284 39
Deficit for year ending June 30, 1890,		12,149 15

Earnings from Operation (Lessees' Account).

Items.	Total Receipts.	Deductions Account of Repayments, etc.	Actual Earnings.
Passenger:			
Passenger revenue,	$228,013 23		
Less repayments:			
Tickets redeemed,		$142 50	
Excess fares refunded,		2,740 82	
Total deductions,		$2,883 32	
Total Passenger Revenue,			$225,129 91
Mail,	$15,415 48		
Express,	10,392 95		
Extra baggage and storage,	1,289 49		27,097 92
Total Passenger Earnings,			$252,227 83
Freight:			
Freight revenue,	$355,171 15		
Less repayments:			
Overcharge to shippers,		$3,365 78	
Other repayments,		5,648 60	
Total deductions,		$9,014 38	
Total Freight Revenue,			$346,156 77
Total Gross Earnings from Operation,			$598,384 60

OPERATING EXPENSES (LESSEES' ACCOUNT).

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures:			
Repairs of roadway,	$36,134 96	$28,391 76	$64,526 72
Repairs of bridges and culverts,	6,019 53	4,729 63	10,749 16
Repairs of fences, road crossings, signs and cattle guards,	1,701 92	1,337 22	3,039 14
Repairs of buildings,	4,105 75	3,225 95	7,331 70
Other expenses,	286 81	225 35	512 16
TOTAL,	$48,248 97	$37,909 91	$86,158 88
Maintenance of equipment:			
Repairs and renewals of locomotives,	$19,131 01	$15,131 50	$34,162 51
Repairs and renewals of passenger cars,	7,538 41	–	7,538 41
Repairs and renewals of freight cars,	–	16,695 28	16,695 28
Shop machinery, tools, etc.,	398 24	312 91	711 15
Other expenses,	283 52	222 77	506 29
TOTAL,	$27,351 18	$32,262 46	$59,613 64
Conducting transportation:			
Wages of enginemen, firemen and roundhouse-men,	$18,389 72	$14,449 06	$32,838 78
Fuel for locomotives,	38,948 40	30,602 31	69,550 71
Water supply for locomotives,	990 93	778 58	1,769 51
All other supplies for locomotives,	3,290 86	2,585 68	5,876 54
Wages of other trainmen,	15,423 36	12,118 36	27,541 72
All other train supplies,	1,072 98	843 06	1,916 04
Wages of switchmen, flagmen and watchmen,	3,188 46	2,505 22	5,693 68
Expense of telegraph, including train despatchers and operators,	2,026 48	1,592 24	3,618 72
Wages of station agents, clerks and laborers,	33,124 52	26,026 41	59,150 93
Station supplies,	3,092 53	2,429 85	5,522 38
Car mileage balances,	–	21,819 28	21,819 28
Loss and damage,	4,174 91	3,280 29	7,455 20
Injuries to persons,	461 16	362 34	873 50
Other expenses,	209 48	164 60	374 08
TOTAL,	$124,393 79	$119,557 28	$243,951 07
General expenses:			
Salaries of officers,	$2,900 06	$2,278 62	$5,178 68
General office expenses and supplies,	83 72	65 78	149 50
Agencies, including salaries and rent,	598 20	470 02	1,068 22
Insurance,	1,649 20	1,295 80	2,945 00
Legal expenses,	252 00	198 00	450 00
Stationery and printing,	2,786 81	2,189 64	4,976 45
Other general expenses,	921 46	724 01	1,645 47
TOTAL,	$9,191 45	$7,221 87	$16,413 32
Recapitulation of expenses:			
Maintenance of way and structures,	$48,248 97	$37,909 91	$86,158 88
Maintenance of equipment,	27,351 18	32,262 46	59,613 64
Conducting transportation,	124,393 79	119,557 28	243,951 07
General expenses,	9,191 45	7,221 87	16,413 32
GRAND TOTAL,	$209,185 39	$196,951 52	$406,136 91
Percentage of operating expenses to earnings,	–	–	66

---

* The items in these columns which are not directly chargeable to either passenger or freight business are to be apportioned between the two on the basis of train mileage as prescribed by the Interstate Commerce Commission. The result, therefore, is not accurate, but only approximate, and this fact must be borne in mind in drawing conclusions therefrom.

Income Account (Lessors' Account).

General Exhibit for the Year.

Income from lease of road,	$240,446 33	
Miscellaneous income, less expense,	5,222 25	
Total Income,		$245,668 58
Salaries and maintenance of organization,	$3,952 83	
Interest on funded debt,	79,725 00	
Interest and discount on interest-bearing current liabilities,	5,238 34	
Taxes,	247 19	
Legal expenses, insurance and miscellaneous,	9,914 78	
Brattleborough engine house,	1,180 51	
Total,		100,258 65
Net Income,		145,409 93
Dividends declared (7 per cent.),		105,000 00
Surplus for year ending June 30, 1890,		40,409 93
Balance Profit and Loss Account June 30, 1889 (surplus),		436,670 37
Balance Profit and Loss Account June 30, 1890 (surplus),		477,080 30

Property Accounts: Charges and Credits during the Year. (Lessor's Account).

Fitchville Branch,	$4,809 42
Lands, land damages and fences,	450 00
Purchase of other roads, and improvements to same (Brattleborough & Whitehall Railroad,	137,493 02
Total for Construction,	142,752 44
Net Addition to Property Account for the Year,	142,752 44

General Balance Sheet June 30, 1890.

(Lessor's Account).

Dr.

Cost of road,	$2,953,336 72	
Cost of equipment,	248,420 44	
Bonds of Brattleborough & Whitehall Railroad,	150,000 00	
Steamboat property,	93,170 00	
Total Permanent Investments,		$3,444,927 16
Cash,	$62,610 83	
Due from solvent companies and individuals,	59,384 44	
Total Cash and Current Assets,		121,995 27
Debit items,		25,614.79
Total,		$3,592,537 22

Cr.

Capital stock,		$1,500,000 00
Funded debt,		1,499,500 00
Current liabilities:		
Loans and bills payable,	$110,000 00	
Audited vouchers and accounts,	18 33	
Dividends not called for,	1,319 25	
Matured interest coupons unpaid,	4,619 34	
Total Current Liabilities,		115.956 92
Profit and Loss balance,		477,080 30
Total,		$3,592,537 22

CAPITAL STOCK (LESSORS' ACCOUNT).

Capital stock authorized by charter,	$2,000,000 00	
Capital stock authorized by votes of company,	1,500,000 00	
Capital stock issued (number of shares, 15,000); amount paid in,		$1,500,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		1,500,000 00
Total number of stockholders,	310	
Number of stockholders in Massachusetts,	70	
Amount of stock held in Massachusetts,	$384,700 00	

DEBT.

Funded debt, as follows:		
Second mortgage bonds due 1892, rate of interest 7 per cent.,		$387,500 00
Interest paid on same during year,	$27,125 00	
Consolidated bonds due 1910, rate of interest 5 per cent.,		812,000 00
Interest paid on same during year,	$40,600 00	
Consolidated bonds due 1910, rate of interest 4 per cent.,		300,000 00
Interest paid on same during year,	$12,000 00	
TOTAL AMOUNT OF FUNDED DEBT,		$1,499,500 00

PASSENGER, FREIGHT AND TRAIN MILEAGE (LESSEES' ACCOUNT).

Passenger traffic:	
Number of passengers carried earning revenue,	540,804
Number of passengers carried one mile,	7,903,408
Average distance carried,	.50
Total passenger revenue,	$225,129 91
Average amount received from each passenger,	41.6 cents.
Average receipts per passenger per mile,	2.84 "
Estimated cost of carrying each passenger one mile,*	2.64 "
Passenger earnings per mile of road,	$2,251 29
Passenger earnings per train mile,	82.7 cents.
Freight traffic:	
Number of tons carried of freight earning revenue,	430,708
Number of tons carried one mile,	27,915,347
Average distance haul of one ton,	.49
Total freight revenue,	$346,156 77
Average amount received for each ton of freight,	80.3 cents.
Average receipts per ton per mile,	1.24 "
Estimated cost of carrying one ton one mile,*	.70 cent.
Freight earnings per mile of road,	$3,461 56
Passenger and freight:	
Passenger and freight earnings,	$571,286 68
Passenger and freight earnings per mile of road,	5,712 86
Expense per mile of road,	4,061 36
Total earnings per mile of road, including mails, express, etc.,	6,082 72
Train mileage:	
Miles run by passenger trains,	272,076
Miles run by freight trains,	213,518
Total mileage trains earning revenue,	485,594
Miles run by switching trains,	107,260
Miles run by construction and other trains,	11,184
Total train mileage,	604,038
Average number of freight cars in train,	30
Average number of loaded cars in train,	20
Average number of empty cars in train,	10

---

* See note under "Operating Expenses."

Train mileage — *Concluded.*	
Average number of tons of freight in train,	140
Average number of tons of freight in each loaded car,	7
Average number of persons employed,	533
Rates of fare:	
Average rate of fare per mile received for local tickets,	2.96 cents.
Average rate of fare per mile received for commutation tickets,	1.97 "
Average rate of fare per mile received for mileage tickets,	.65 cent.
Average rate of fare per mile received for season tickets,	2.02 cents.
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies,	2.47 "
Rates of freight:	
Average rate per ton per mile received from freight waybilled local,	3.23 "
Average rate per ton per mile received from freight waybilled jointly with other railroads and transportation companies,	1.18 "

DESCRIPTION OF ROAD OWNED.

Main line of road from New London to Miller's Falls,	121 miles.
Main line of road in Massachusetts,	54 "
Main line of road in Connecticut,	56 "
Main line of road in Vermont,	11 "
Total road belonging to this company,	121 "
Sidings and other tracks not before enumerated,	27.32 "
Same in Massachusetts,	10.08 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	148.32 "
Same in Massachusetts,	64.08 "
Total length of tracks laid with steel rails,	113 "
Total miles of road operated by this company,	100 "
Total miles of road operated by lessees in Massachusetts,	54 "
Number of stations in Massachusetts on all roads operated by lessees,	19
Number of telegraph offices in same,	10
Number of stations on all roads owned by lessees,	45
Same in Massachusetts,	19

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	39
Number of crossings of highways over railroad,	6
Number of crossings of highways under railroad,	15
Number of highway bridges 18 feet above track,	3
Number of highway bridges less than 18 feet above track,	3
Height of lowest bridge above the rail,	17 ft. 6 in.
Number of crossings at which gates or flagman are maintained,	1
Number of crossings at which there are neither signals nor flagman,	38
Number of railroad crossings at grade (specifying each),	2
Boston & Albany, at Palmer and Barrett's Junction.	
Number of railroad crossings over other railroads (specifying each),	1
Fitchburg, at Miller's Falls.	
Number of railroad crossings under other railroads (specifying each),	1
Central Massachusetts, near Belchertown.	

DESCRIPTION OF EQUIPMENT.

	Number Owned.	Total Number.	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.	Number Equipped with Patent Coupler.
Locomotives:			Tons.	Tons.			
Passenger, . . .	11	11	50	45	11	-	-
Freight, . . .	11	11	75	65	3	2	-
Other, ...	2	2	48	45	-	1	-
TOTAL, . . .	24	24	-	-	14	3	-
Passenger cars, . .	13	13	30	22	13	-	13
Combination cars, . .	10	10	25	17	10	-	10
Baggage, mail and express cars, . . .	2	2	15	14	2	-	2
TOTAL, . . .	25	25	-	-	25	-	25
Box freight cars (basis of 8 wheels), . . .	107	107	10	9	-	-	-
Coal freight cars (basis of 8 wheels), . .	55	55	8	8	-	-	-
Flat freight cars (basis of 8 wheels), . . .	154	154	8	8	-	-	-
TOTAL, . . .	316	316	-	-	-	-	-
Cars in company's service:							
Derrick cars, . .	1	1	5	5	-	-	-
Caboose cars, . .	8	8	5	5	-	-	-
Other road cars, . .	5	5	8	6	-	-	-
TOTAL, . . .	14	14	-	-	-	-	-

Number of cars in passenger equipment with 8 wheels fitted with brakes for all wheels, ... 25

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL (IN MASSACHUSETTS).		FROM THEIR OWN MISCONDUCT OR CARELESSNESS (IN MASSACHUSETTS).		TOTAL IN MASSACHUSETTS.		TOTAL ON WHOLE ROAD OPERATED.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, .	-	-	-	-	-	-	-	-
Employees, .	-	-	-	1	-	1	-	6
Others, . .	-	-	-	-	-	-	-	-

STATEMENT OF EACH ACCIDENT IN MASSACHUSETTS.

Jan. 15, 1890. — M. Kelley, brakeman on No. 31 freight, fell from car and sprained his ankle, at Palmer.

NAME AND RESIDENCE OF OFFICERS.

Robert Coit, *President and Treasurer*, New London, Conn. J. W. Hobart, *General Manager*, New London, Conn. Augustus Brandegee, *General Counsel*, New London, Conn. E. G. Lucas, *Auditor*, St. Albans, Vt. C. F. Spaulding, *Superintendent*, New London, Conn. C. F. Spaulding, *General Freight Agent*, New London, Conn. S. W. Cummings, *General Passenger Agent*, St. Albans, Vt. J. A. Southard, *Clerk of Corporation*, New London, Conn.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Robert Coit, New London, Conn. Benjamin Stark, New London, Conn. Augustus Brandegee, New London, Conn. Jonathan N. Harris, New London, Conn. C. A. Williams, New London, Conn. Thomas Ramsdell, Windham, Conn. C. H. Osgood, Norwich, Conn. James A. Rumrill, Springfield, Mass. Thomas B. Eaton, Worcester, Mass.

PROPER ADDRESS OF THE COMPANY.

NEW LONDON NORTHERN RAILROAD COMPANY,
NEW LONDON, CONN.

ROB'T COIT,
AUGUSTUS BRANDEGEE,
J. N. HARRIS,
Directors.
ROB'T COIT,
Treasurer.
C. F. SPAULDING,
Superintendent.

STATE OF CONNECTICUT.

NEW LONDON, ss. Sept. 2, 1890. Then personally appeared Robert Coit, Augustus Brandegee, J. N. Harris and C. F. Spaulding, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

JUSTUS A. SOUTHARD,
Notary Public.

REPORT

OF THE

NEW YORK & BOSTON INLAND RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This company was organized and obtained certificate of incorporation dated Jan. 17, 1883, and has also filed with the Secretary of State certificate dated Jan. 14, 1885, that the law had been complied with.]

General Balance Sheet June 30, 1890.

DR.		
Cost of road,		$157,914 07
Cash,		22 05
TOTAL,		$157,936 12
CR.		
Capital stock,		$52,500 00
Capital stock: first assessment,		43,730 00
Capital stock: second assessment,		43,730 00
Current liabilities:		
Loans and bills payable,	$776 12	
Audited vouchers and accounts,	17,200 00	
TOTAL CURRENT LIABILITIES,		17,976 12
TOTAL,		$157,936 12

CAPITAL STOCK.

Capital stock authorized by charter,	$500,000 00	
Capital stock authorized by votes of company,	500,000 00	
Capital stock issued (number of shares, 525); amount paid in,		$52,500 00
Capital stock paid in on shares not issued (number of shares, 4,475),		87,460 00
TOTAL AMOUNT PAID IN, AS PER BOOKS OF THE COMPANY,		139,960 00
Total number of stockholders,	38	
Number of stockholders in Massachusetts,	29	
Amount of stock held in Massachusetts,	$78,590 00	

NAME AND RESIDENCE OF OFFICERS.

George Cook, *President*, West Newton, Mass. Geo. C. Hill, *Treasurer*, Boston, Mass. E. D. Hewins, *Clerk of Corporation*, Boston, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

George Cook, West Newton, Mass. Sam'l L. Ham, Peabody, Mass. George S. Forbush, Boston, Mass. Chas. H. Blood, Fitchburg, Mass. Joseph F. Bodwell, Hallowell, Me. Franklin Mead, Boston, Mass. William

Rotch, Boston, Mass. Thomas N. Browne, New York, N.Y. John H. Buttrick, Lowell, Mass. Geo. E. Spare, New Haven, Conn. Chas. R. Burleigh, Fitchburg, Mass. Joseph Stone, Boston, Mass. Geo. C. Hill, Boston, Mass. H. A. Blood, Fitchburg, Mass. Wm. M. Thayer, Boston, Mass.

Proper Address of the Company.

NEW YORK & BOSTON INLAND RAILROAD COMPANY,
8 Congress Street, Room 21, Boston, Mass.

WM. ROTCH,
CHAS. H. BLOOD,
WM. M. THAYER,
FRANKLIN MEAD,
GEORGE C. HILL,
JOSEPH STONE,
GEO. S. FORBUSH,
Directors.
GEORGE C. HILL,
Treasurer.

Commonwealth of Massachusetts.

Suffolk, ss. Oct. 24, 1890. Then personally appeared Wm. Rotch, Chas. H. Blood, Wm. M. Thayer, H. A. Blood, Franklin Mead, Geo. C. Hill, Geo. S. Forbush and Joseph Stone, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

E. D. HEWINS,
Justice of the Peace.

REPORT

OF THE

NEW YORK & NEW ENGLAND RAILROAD COMPANY,

For the Year ending June 30, 1890.

Income Account.

General Exhibit for the Year.

Gross earnings from operation,		$5,849,691 70	
Less operating expenses,		3,782,157 47	
Income from operation,			$2,067,534 23
Miscellaneous income, less expenses:			
Boston Harbor transfer,		$3,750 38	
Income from other sources,			3,750 38
Total Income,			2,071,284 61
Deductions from income:			
Interest on funded debt accrued during year,		$1,005,539 48	
Interest and discount on interest-bearing current liabilities,		5,397 45	
Taxes,		257,689 89	
Insurance,		18,850 97	
Rentals:			
Rhode Island & Massachusetts R.R.,	$20,000 00		
Rockville R.R.,	4,563 74		
Boston & Albany R.R.,	5,000 00		
Norwich & Worcester R.R.,	253,360 69		
Milford & Woonsocket R.R.,	7,540 15		
Milford, Franklin & Providence R.R.,	5,026 76		
New London & Northern R.R.,	39,475 00		
Newburgh, Dutchess & Connecticut R.R.,	68,024 18		
		403,490 52	
Total deductions from income,			1,690,968 31
Net Income,			380,316 30
Dividends declared (7 per cent. on preferred stock),			183,369 26
Surplus for year ending June 30, 1890,			196,947 04
Balance Profit and Loss Account June 30, 1889 (deficit),			636,863 15
Total Profit and Loss Account (deficit),			439,916 11
Add:			
Discount on sale of 186 Boston Terminal first mortgage bonds,		$9,300 00	
Expenditures during the year for renewal of equipment destroyed in 1882, 1883 and 1885,		7,468 01	
Worthless accounts charged off,		471 18	
			17,239 19
Deduct:			457,155 30
Premium on sale of preferred stock,			20,542 59
Balance Profit and Loss Account June 30, 1890 (deficit),			436,612 71

EARNINGS FROM OPERATION.

ITEMS.	Total Receipts.	Deductions Account of Repayments, etc.	Actual Earnings.
Passenger:			
Passenger revenue,	$2,025,420 71		
Less repayments:			
Tickets redeemed,	. . . .	$7,002 74	
Excess fares refunded,	. . . .	13,763 45	
Total deductions,	. . . .	$20,766 19	
TOTAL PASSENGER REVENUE,	. . . .	. . . .	$2,004 654 52
Mail,	. . . .	. . . .	59,064 36
Express,	. . . .	. . . .	153,732 13
Extra baggage and storage,	. . . .	. . . .	15,547 86
Other items,	. . . .	. . . .	18,764 46
TOTAL PASSENGER EARNINGS,	. . . .	. . . .	$2,251,763 33
Freight:			
Freight revenue,	$3,484,927 35		
Less repayments:			
Overcharge to shippers,	. . . .	$39,542 40	
Total deductions,	. . . .	$39,542 40	
TOTAL FREIGHT REVENUE,	. . . .	. . . .	$3,445,384 95
Elevators,	. . . .	. . . .	3,883 77
Other items,	. . . .	. . . .	72,263 21
TOTAL FREIGHT EARNINGS,	. . . .	. . . .	$3,521,536 93
TOTAL PASSENGER AND FREIGHT EARNINGS,	. . . .	. . . .	$5,773,300 26
Other earnings from operation:			
Switching charges, balance,	. . . .	. . . .	$19,609 70
Rentals not otherwise provided for,	. . . .	. . . .	53,768 33
Other sources,	. . . .	. . . .	3,013 41
TOTAL OTHER EARNINGS,	. . . .	. . . .	$76,391 44
TOTAL GROSS EARNINGS FROM OPERATION,	. . . .	. . . .	$5,849,691 70

OPERATING EXPENSES.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures:			
Repairs of roadway,	$162,256 36	$146,245 12	$308,501 48
Renewals of rails,	3,521 08	3,173 60	6 694 68
Renewals of ties,	57,298 20	51,644 07	108,942 27
Repairs of bridges and culverts,	23,258 76	20,963 60	44,222 36
Repairs of fences, road crossing, signs and cattle guards,	10,942 47	9,862 67	20.805 14
Repairs of buildings,	27,405 69	29.904 70	57,310 39
Repairs of docks and wharves,	–	15,506 05	15,506 05
Repairs of telegraph,	12 64	11 38	24 02
TOTAL,	$284,695 20	$277,311 19	$562,006 39
Maintenance of equipment:			
Repairs and renewals of locomotives,	$91,466 99	$130,837 91	$222,304 90
Repairs and renewals of passenger cars,	95,590 52	–	95,590 52

---

* See note on page 187.

Operating Expenses — Concluded.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of equipment — *Concluded.*			
Repairs and renewals of freight cars,	-	$164,039 56	$164,039 56
Repairs and renewals of ferry-boats, tugs, floats and barges,	$170 25	3,234 66	3,404 91
Shop machinery, tools, etc.,	18,345 51	16,535 18	34,880 69
Other expenses,	10,971 33	9,888 68	20,860 01
TOTAL,	$216,544 60	$324,535 99	$541,080 59
Conducting transportation:			
Wages of enginemen, firemen and roundhouse-men,	$136,349 57	$207,352 05	$343,701 62
Fuel for locomotives,	195,040 46	342,706 96	537,747 42
Water supply for locomotives,	15,118 15	13,626 29	28,744 44
All other supplies for locomotives,	7,586 20	9,268 16	16,854 36
Wages of other trainmen,	128,172 24	208,472 41	336,644 65
All other train supplies,	21,145 32	41,236 17	62,381 49
Wages of switchmen, flagmen and watchmen,	33,673 81	135,939 64	169,613 45
Expense of telegraph, including train despatchers and operators,	22,813 29	41,296 22	64,109 51
Wages of station agents, clerks and laborers,	137,728 36	372,290 40	512,018 76
Station supplies,	20,265 20	38,104 35	58,369 55
Car mileage balances,	2,440 37	40,980 01	43,420 38
Loss and damage,	1,135 94	20,201 32	21,337 26
Injuries to persons,	14,567 61	9,547 02	24,114 63
Barges, floats, tugs, ferry-boats, expenses of, including wages, fuel and supplies,	2,332 33	44,314 37	46,646 70
TOTAL,	$738,368 85	$1,527,335 37	$2,265,704 22
General expenses:			
Salaries of officers,	$51,554 37	$55,765 14	$107,319 51
Salaries of clerks,	36,595 65	69,124 46	105,720 11
General office expenses and supplies,	10,317 73	9,299 57	19,617 30
Agencies, including salaries and rent,	2,169 61	9,520 55	11,690 16
Advertising,	20,100 35	530 11	20,630 46
Expense of fast freight lines,	-	3,196 10	3,196 10
Expense of stock yards and elevators,	-	5,775 56	5,775 56
Rentals not otherwise provided for,	44,545 95	5,263 84	49,809 79
Legal expenses,	23,929 77	21,568 41	45,498 18
Stationery and printing,	20,038 81	24,070 29	44,109 10
TOTAL,	$209,252 24	$204,114 03	$413,366 27
Recapitulation of expenses:			
Maintenance of way and structures,	$284,695 20	$277,311 19	$562,006 39
Maintenance of equipment,	216,544 60	324,535 99	541,080 59
Conducting transportation,	738,368 85	1,527,335 37	2,265,704 22
General expenses,	209,252 24	204,114 03	413,366 27
GRAND TOTAL,	$1,448,860 89	$2,333,296 58	$3,782,157 47
Percentage of operating expenses to earnings,	-	-	64.66

---

* The items in these columns which are not directly chargeable to either passenger or freight business are to be apportioned between the two on the basis of train mileage as prescribed by the Interstate Commerce Commission. The result, therefore, is not accurate, but only approximate, and this fact must be borne in mind in drawing conclusions therefrom.

Property Accounts: Charges and Credits during the Year.

Grading and masonry,	$11,270 87
Bridging,	37,389 55
Superstructure, including rails,	55,434 68
Lands, land damages and fences,	26,756 90
Passenger and freight stations, woodsheds and water stations,	43,227 28

Engine houses, car sheds and turn-tables, .	$2,257 56	
Machine shops, ...	21,791 15	
Underlying liens bought:		
Boston, Hartford & Erie Railroad first mortgage bonds, ...	2,260 00	
TOTAL FOR CONSTRUCTION, ...		$200,387 99
Locomotives (number, 10 and improvement),	$119,944 66	
Parlor and sleeping cars (additions), . .	525 00	
Passenger, mail and baggage cars (number, 7),	24,262 60	
Freight and other cars (number, 2), . .	1,593 05	
TOTAL FOR EQUIPMENT, ...		146,325 31
TOTAL CHARGES TO PROPERTY ACCOUNTS, ...		$346,713 30
Property sold (or reduced in valuation on the books) and credited property accounts during the year:		
Sale of land at New Britain, ...	$1,000 00	
Locomotive No. 160, ...	7,500 00	
TOTAL CREDITS TO PROPERTY ACCOUNTS, ...		8,500 00
NET ADDITION TO PROPERTY ACCOUNT FOR THE YEAR,		$338,213 30

General Balance Sheet June 30, 1890.

DR.

Cost of road, ...	$34,303,074 99	
Cost of equipment, ...	4,440,602 25	
Stock of New England Terminal Company, .	99,900 00	
TOTAL PERMANENT INVESTMENTS, ...		$38,843,577 24
Cash, ...	$158,638 61	
Cash deposited to pay first mortgage bond coupon due July 1, 1890, . . .	100,000 00	
Due from agents, ...	427,230 38	
Due from solvent companies and individuals, .	189,622 45	
TOTAL CASH AND CURRENT ASSETS, ...		875,491 44
Other assets:		
Materials and supplies, ...	$452,842 52	
TOTAL OTHER ASSETS, ...		452,842 52
Debit balances, being expenditures undistributed (principally taxes), and unadjusted accounts, ...		85,431 54
Profit and Loss balance, ...		436,612 71
TOTAL, ...		$40,693,955 45

CR.

Capital stock:		
Common stock, ...	*$20,000,000 00	
Preferred stock, ...	2,700,000 00	
TOTAL CAPITAL STOCK, ...		$22,700,000 00
Funded debt, ...		16,748,625 00
Supplies transferred from Norwich & Worcester Railroad, .		61,422 99
Current liabilities:		
Loans and bills payable, ...	$244,500 00	
Audited vouchers and accounts, ...	286,479 68	
Wages and salaries, ...	67,974 63	

---

* Includes $223,000 "Berdell bonds," convertible.

Current liabilities — *Concluded.*		
Net traffic balances due to other companies,	$101,648 11	
Matured interest coupons unpaid (including coupons due July 1), ...	331,680 00	
Accrued interest on funded debt not yet payable, ...	128.809 99	
Rentals due July 1, ...	22,815 05	
TOTAL CURRENT LIABILITIES, ...		$1,183,907 46
TOTAL, ...		$40,693,955 45

Current Liabilities and Assets.

CURRENT LIABILITIES ACCRUING UP TO AND INCLUDING JUNE 30, 1890.

Loans and bills payable, ...	$244,500 00
Audited vouchers and accounts, ...	286,479 68
Wages and salaries, ...	67.974 63
Net traffic balances due to other companies, ...	101,648 11
Matured interest coupons unpaid (including coupons due July 1), ...	331,680 00
Rentals due July 1, ...	22,815 05
TOTAL, ...	$1,055,097 47

CASH AND CURRENT ASSETS AVAILABLE FOR PAYMENT OF CURRENT LIABILITIES.

Cash, ...	$158,638 61
Bills receivable, ...	100,000 00
Due from agents, ...	427.230 38
Due from solvent companies and individuals, ...	189,622 45
Balance net current liabilities, ...	179,606 03
TOTAL, ...	$1.055,097 47
Materials and supplies on hand (see Balance Sheet), . .	452,842 52

Present or Contingent Liabilities not included in the Balance Sheet.

Bonds guaranteed by this company or a lien on its road, viz:	
First mortgage 5 per cent. bonds of the New England Terminal Company, principal due Feb. 1, 1909, guaranteed jointly by this company, the Housatonic Railroad Company, and the Danbury & Norwalk Railroad Company, ...	800,000 00

CAPITAL STOCK.

Capital stock authorized by charter:	Common,	$20,000,000 00	
	Preferred,	5,000,000 00	
			$25,000,000 00
Capital stock authorized by votes of company:	Common,	$20,000,000 00	
	Preferred,	2,800,000 00	
			22,800,000 00
Capital stock issued (number of shares, 200,000 common; 27,000 preferred), amount paid in, ...			*22,700,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,			22,700,000 00

---

* Includes 223 "Berdell bonds," convertible.

Total number of stockholders:	Common,	941
	Preferred,	583
Number of stockholders in Massachusetts:	Common,	452
	Preferred,	492
Amount of stock held in Massachusetts:	Common,	$3,906,700 00
	Preferred,	2,263,100 00

DEBT.

Funded debt, as follows:		
First mortgage bonds due Jan. 1, 1905, rate of interest 7 per cent.,		$6,000,000 00
First mortgage bonds due Jan. 1, 1905, rate of interest 6 per cent.,		4,000,000 00
Interest paid on same during year,	$658,775 00	
Second mortgage bonds due Aug. 1, 1902, rate of interest 6 per cent.,		4,002,000 00
Second mortgage bonds due Aug. 1. 1902, rate of interest 3 per cent.,		998,000 00
Interest paid on same during year,	$270,900 00	
Boston Terminal first mortgage bonds due April 1, 1939, rate of interest 4 per cent.,		1,386,000 00
Interest paid on same during year,	*$57,923 74	
Mortgage note Curtis' wharf due Oct. 1, 1893, rate of interest 5 per cent.,		80,000 00
Interest paid on same during year,	$4,000 00	
Mortgage note Curtis' wharf, due Feb. 10, 1882, rate of interest 4½ per cent.,		60,000 00
Interest paid on same during year,	$2,700 00	
Contract liabilities Piper wharf due March 1, 1893, rate of interest 5½ per cent.,		200,000 00
Interest paid on same during year,	$11,000 00	
Contract liabilities equipment purchased from Milford & Woonsocket Railroad Company due Oct. 1, 1892,		22,625 00
Interest paid on same during year,	$1,357 50	
TOTAL AMOUNT OF FUNDED DEBT,		$16,748,625 00

PASSENGER, FREIGHT AND TRAIN MILEAGE.

Passenger traffic:	
Number of passengers carried earning revenue,	7,637,290
Number of passengers carried one mile,	102,470,819
Average distance carried,	13.41717
Total passenger revenue,	$2,004,654 52
Average amount received from each passenger,	26.248 cents.
Average receipts per passenger per mile,	1 956 "
Estimated cost of carrying each passenger one mile,†	1.413 "
Passenger earnings per mile of road,	$4,209 07.158
Passenger earnings per train mile,	$1 00.605
Freight traffic:	
Number of tons carried of freight earning revenue,	2,973,813
Number of tons carried one mile,	282,295,120
Average distance haul of one ton,	94 92698
Total freight revenue,	$3,445,384 95
Average amount received for each ton of freight,	1 15.857
Average receipts per ton per mile,	1.220 cents.
Estimated cost of carrying one ton one mile,†	.826 cent.
Freight earnings per mile of road,	$7,234 10.030

---

* Includes interests on note and contracts taken up by the issue of these bonds.

† See note under "Operating Expenses."

Passenger and freight:	
Passenger and freight earnings,	$5,450,039 47
Passenger and freight earnings per mile of road,	11,443 17.188
Expense per mile of road,	7,941 20.451
Total earnings per mile of road, including mails, express, etc.,	12,282 30.143
Train mileage:	
Miles run by passenger trains,	1,985,967
Miles run by freight trains,	1,776,073
Miles run by mixed trains,	26,517
Total mileage trains earning revenue,	3,788,557
Miles run by switching trains,	830,300
Miles run by construction and other trains,	120,052
Total train mileage,	4,738,909
Mileage of loaded freight cars, north or east,	16,405,864
Mileage of loaded freight cars, south or west,	10,937,242
Mileage of empty freight cars, north or east,	2,642,174
Mileage of empty freight cars, south or west,	7,520,036
Average number of freight cars in train,	20 88314
Average number of loaded cars in train,	15.22477
Average number of empty cars in train,	5.65837
Average number of tons of freight in train,	157 18332
Average number of tons of freight in each loaded car,	10.32418
Average number of persons employed,	4,184
Rates of fare:	
Average rate of fare per mile received for local tickets,	2.017 cents.
Average rate of fare per mile received for commutation tickets,	1.572 "
Average rate of fare per mile received for mileage tickets,	2 "
Average rate of fare per mile received for season tickets,	.794 cent.
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies,	2.139 cents.
Rates of freight:	
Average rate per ton per mile received from freight way-billed local,	2 802 "
Average rate per ton per mile received from freight way-billed jointly with other railroads and transportation companies,	.966 cent.
Relating to passengers:	
Passengers to Boston (including season),	1,598,404
Passengers from Boston (including season),	1,533,204
Season-ticket passengers to and from Boston,	230,615

Description of Road Owned.

Main line of road from Boston to Hopewell Junction, 214.96 Wicopee to Fishkill-on-Hudson, 1.71	216 67 miles.
Main line of road in Massachusetts,	52.05 "
Main line of road in Connecticut,	134.17 "
Main line of road in New York,	30.45 "
Double track on main line,	108 10 "
Same in Massachusetts,	52.05 "
Branches owned by company, viz.:	
Providence to Willimantic (single track),	58 32 "
Cook Street, Newton, to Woonsocket (single track),	28.62 "
East Thompson to Southbridge (single track),	17.36 "
East Hartford to Junction of Boston & Albany Railroad, Springfield (single track),	27.48 "
Melrose to West Street, Rockville (single track),	7.22 "
Dedham Junction and Islington to Dedham (single track),	2.90 "
Dorrance Street track, Providence (single track),	.62 mile.

Freight branch, Hartford (single track),	.67 mile.
Total length of branches owned by company,	143.19 miles.
Total length of branches owned by company in Massachusetts,	49.82 "
Total length of branches owned by company in Rhode Island,	28 "
Total length of branches owned by company in Connecticut,	65.37 "
Total road belonging to this company,	359.86 "
Sidings and other tracks not before enumerated,	139.28 "
Same in Massachusetts,	47.46 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	607.24 "
Same in Massachusetts,	201.38 "
Total length of tracks laid with steel rails, [Weights per yard, 60, 66 and 75 pounds.]	483.18 "

Roads and Branches belonging to Other Companies, operated by this Company under Lease or Contract, the Operations of which are included in this Return.

Norwich & Worcester,	66.16 miles.
Milford & Woonsocket,	15.32 "
Milford, Franklin & Providence,	4.65 "
Rhode Island & Massachusetts,	13.60 "
Rockville,	4.43 "
Boston & Albany,	1.20 "
Total length of above roads,	105.36 "
Total length of above roads in Massachusetts,	45.81 "
Total length of above roads in other States (specifying each):	
Connecticut,	52.35 "
Rhode Island,	7.20 "
Total miles of road operated by this company,	465.22 "
Total miles of road operated by this company in Massachusetts,	147.68 "
Number of stations in Massachusetts on all roads operated by this company,	76
Number of telegraph offices in same,	35
Number of stations on all roads owned by this company,	168
Same in Massachusetts,	61
Trackage right, Newburgh, Dutchess & Connecticut Railroad, Hopewell Junction to Wicopee Junction,	10.95 miles.
New York, Providence & Boston Railroad, Junction New York & New England Railroad to depot, Providence,	.10 mile.

GENERAL INFORMATION.

New Bridges of over Ten Feet Span built within the Year on Roads operated in Massachusetts (including Those replacing Old Structures and Those built where None before existed).

Location.	To Replace.	Description.	Length of Spans and Number of Tracks.	When and by Whom Built.
Hyde Park, Mass.	Mosely girder.	Riveted triangular truss.	77½ ft. span, 2 tracks.	December, 1889. Boston Bridge Works.

Bridges on Roads operated in Massachusetts.

Total length of pile and trestle bridging,*	*2,277 feet.
Bridges extensively repaired during the year (specify how): Eastern Division: Bridge No. 1. Fort Point channel, Boston. Piling, new planking, new machinery, stringers, etc.; pier replanked.	

---

* For year ending June 30, 1889, this was reported as 2,217 feet. The above figures, 2,27 eet, are correct, the discrepancy being an error in copying last year's returns.

Bridge No. 2. South Bay, South Boston. Stringers and planking on trestle.

Bridge No. 3, Swett Street, Bridge No. 6, Cottage Street, Bridge No. 8, Columbia Street, Boston, Bridge No. 18, Endicott, and Bridge No. 26, west of Walpole, new ties and guard rail.

Bridge No. 11. West of River Street, Hyde Park. New iron bridge.

Bridge No. 15, Central Avenue, Readville, and Bridge No. 16, over Boston & Providence Railroad, Readville, stringers and floor beams.

Bridge No. 20. Ellis. New stringers.

Bridge No. 23. Tilton's. New stringers and guard rail.

Bridge No. 31. Woonsocket Junction. New ties and stringers.

Bridge No. 32. Blackstone. Iron clamps and chards.

Southbridge Branch: Bridge No. 1. Webster. New ties and guard rails.

Bridge No. 4. Dudley. New stringers.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade, ...	103
Number of crossings of highways over railroad, . . .	37
Number of crossings of highways under railroad, . . .	30
Number of highway bridges 18 feet above track, . . .	10
Number of highway bridges less than 18 feet above track, .	27
Height of lowest bridge above the rail, ...	14 feet 1 in.
Number of crossings at which gates or flagman are maintained,	21
Number of crossings at which electric signals are maintained,	2
Number of crossings at which there are neither signals nor flagman, ...	80
Number of railroad crossings at grade (specifying each), .	4
Old Colony Railroad at Walpole.	
Old Colony Railroad at Medfield.	
Milford, Franklin & Providence Railroad at Bellingham.	
Norwich & Worcester Railroad at Webster.	
Number of railroad crossings over other railroads (specifying each), ...	2
Old Colony Railroad at Readville.	
Providence & Worcester Railroad at Blackstone.	
Number of railroad crossings under other railroads (specifying each), ...	2
Old Colony Railroad at Boston.	
Providence, Webster & Springfield Railroad at Webster.	

Description of Equipment.

	Number Owned.	Number Leased.	Total Number	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.	Number Equipped with Patent Coupler.
Locomotives:				Tons.	Tons.			
Passenger, . .	66	8	74	50.75	37	74	74	27
Freight, . .	72	5	77	55.5	49	61	73	-
Other, . .	21	7	28	38	31.5	2	24	-
TOTAL, . .	159	20	179	55.5	41.5	137	171	27

DESCRIPTION OF EQUIPMENT — Concluded.

	Number Owned.	Number Leased.	Total Number.	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.	Number Equipped with Patent Coupler.
				Tons.	Tons.			
Passenger cars, .	165	13	178	32	25	178	-	178
Combination cars, .	40	5	45	28	23	45	-	45
Baggage, mail and express cars, .	26	3	29	26	18	29	-	29
Parlor cars, . .	4	-	4	33.5	33	4	-	4
Dining cars, . .	2	-	2	33	31	2	-	2
Directors' and pay cars, . . .	2	-	2	25	20	2	-	2
TOTAL, . .	239	21	260	-	-	260	-	260
Box freight cars (basis of 8 wheels),	1,572	242	1,814	11	10	64	-	139
Coal freight cars (basis of 8 wheels),	1,670	134	1,854	13	10	-	-	-
Flat freight cars (basis of 8 wheels),	469	-	469	9	8	-	-	-
Other freight cars (basis of 8 wheels),	235	150	385	5	4	-	-	-
TOTAL, . .	3,946	576	4,522	13	8	64	-	139
Cars in company's service:								
Gravel cars, . .	10	-	10	11	11	-	-	-
Derrick cars and tool cars, . .	13	-	13	40	25	13	-	-
Caboose cars, .	74	8	82	9	7	-	-	-
TOTAL, . .	97	8	105	9.5	-	13	-	-

Number of cars in passenger equipment with 8 wheels fitted with brakes for all wheels, ... 260

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL (IN MASSACHUSETTS).		FROM THEIR OWN MISCONDUCT OR CARELESSNESS (IN MASSACHUSETTS).		TOTAL IN MASSACHUSETTS.		TOTAL ON WHOLE ROAD OPERATED.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, .	-	-	-	3	-	3	5	14
Employees, .	-	2	3	27	3	29	12	177
Others, . .	-	-	11	12	11	12	31	32

STATEMENT OF EACH ACCIDENT IN MASSACHUSETTS.

July 16, 1889. — South Boston: Edward Burke, injured; fell from draw bridge.

August 2. — Norwood Central: Mrs. P. M. Mudge, injured; ankle hurt; platform gave way.

August 7. — Dorchester: Mrs. A. N. Thale, injured; fell off car; dress caught on gate.

August 13. — South Boston: James Furguson, injured; arm caught in coupling.

August 13. — Norwood shops: Charles Foster, injured; hand jammed; stopping moving cars with stick.

August 22. — Webster: Paul King, injured; finger crushed in coupling.

August 24. — Milford: Edward Hogan, injured; struck while lying on track.

August 31. — Blackstone: Delia Robidoux, injured; struck while lying on track.

September 16. — Dudley Street: Thomas McFarland, killed; struck while lying on track.

September 20. — Walpole: Webster Smith, killed; struck while crossing track.

September 27. — Forest Avenue: Wallace Hefler, injured; struck by overhead bridge.

September 28. — South Boston: Kate Keith, injured; jumped off bridge into water, to avoid being struck.

September 30. — Franklin: James O'Neil, injured; hand bruised in coupling.

October 10. — Blackstone: John Tait, injured; struck in eye by pin, while coupling.

October 11. — Boston: James Clements, injured; struck while walking on track.

October 14. — City Mills: Robert Young, injured fatally; struck while on track.

October 17. — Mattapan: Edwin Adams, killed; struck while walking on track.

October 18. — Hyde Park: Ingram Wilson, killed; knocked off car by bridge.

October 20. — Boston: Fred. Carpenter, injured; struck by target, while leaning out car window.

October 21. — Stock yards: Patrick Kirby, killed; struck while walking on track.

October 25. — South Boston: Stephen McCormick, injured; struck by locomotive.

October 31. — Woonsocket Junction: John Butler, injured; struck while walking on track.

November 2. — Armory: Michael Foley, injured; arm caught in revolving crank of hand car.

November 2. — Franklin: Charles Warrell, injured; struck by bridge, and thrown off train.

November 6. — South Boston: M. Mullen, injured; foot jammed, pulling pin.

November 24. — Hyde Park: George Pelletier, injured; arm struck by mail crane.

November 25. — Franklin: Walter Stratton, injured; collar-bone broken while coupling.

November 26. — River Street: Michael Jones, killed; knocked off train by bridge.

November 27. — Norwood Central: Bernard Donnelly, killed; struck while crossing track.

December 5. — Bird Street: Thomas Heffron, injured; struck while crossing track.

December 6. — Mattapan: Miss Belle Goff, killed; committed suicide on track.

December 12. — Hyde Park: Charles Devlin, injured; walked into culvert.

December 12. — Hyde Park: John C. Lane, injured; walked into culvert.

December 14. — South Boston: Michael Mullen, injured; fell across draw-bar.

December 19. — Webster: James Carroll, injured; telegraph pole fell on him.

December 20. — South Boston: James Fall, injured; stepped on track in front of engine.

December 28. — Boston: Louisa Kelly, injured; thrown against partition in car.

Jan 14, 1890. — South Boston: James Mahoney, injured; knee-cap broken.

January 25. — Boston: John T. McDonough, injured; fell from tramway.

January 30. — Walpole: Frank S. Sturtevant, injured; fell from car into road bridge.

February 17. — Blackstone: L. M. Horton, injured; struck on head by bridge.

February 19. — South Boston: A. Connell, injured; jammed between box car and caboose.

February 24. — Boston: Benjamin F. Buckley, injured; jammed between truck and post.

February 26. — City Mills: Charles H. Bean, injured; fell off car ladder.

March 10. — Worcester: Michael Daley, killed; struck by engine while crossing track.

March 18. — South Boston: Robert Armour, killed; struck by train at First Street crossing.

March 31. — Norwood Central: William L. Farnsworth, injured; burned by gas and paint.

April 2. — South Boston: Jeremiah Morison, injured; slipped on running-board, and fell between cars.

April 5. — Winslows: James Fagan, injured; found lying on track.

May 2. — Dorchester: Mary Ann Welch, injured; slipped and fell in attempt to board train.

May 3. — South Boston: John O'Neill, killed; struck while on track.

May 12. — Franklin: John McCarthy, injured while coupling cars.

May 22. — South Boston: B. Dolan, injured between draw-bar of car and engine.

June 9. — Highland Lake: W. B. Miller, injured by engine rod breaking.

June 9. — Highland Lake: Thomas Howartts, injured by engine rod breaking.

June 10. — South Boston: John Schricker, killed while walking on track.

June 19. — Milford: George Battersill, injured; knocked off top of car by derrick.

June 24. — Norwood: A. M. Shepleigh, killed while walking on track.

NAME AND RESIDENCE OF OFFICERS.

J. A. Bostwick, *President*, 22 William Street, New York, N. Y. Wm. A. Haskell, *Vice-President*, 180 Summer Street, Boston, Mass. Chas. Howard, *General Manager*, 180 Summer Street, Boston, Mass. Chas. A. Prince, *General Counsel*, 180 Summer Street, Boston, Mass. W. H. Dudley, *Auditor*, 180 Summer Street, Boston, Mass. B. F. Cash, *Assistant Auditor*, 180 Summer Street, Boston, Mass. Geo. F. Randolph, *General Freight Agent*, 180 Summer Street, Boston, Mass. A. C. Kendall, *General Passenger Agent*, 180 Summer Street, Boston, Mass. Geo. B. Phippen, *Treasurer*, 180 Summer Street, Boston, Mass. Jas. W. Perkins, *Clerk of Corporation*, 180 Summer Street, Boston, Mass. E. V. Cary, *Assistant Secretary*, 22 William Street, New York, N. Y. A. A. Jackson, *General Superintendent*, 180 Summer Street, Boston, Mass. R. E. Eavenson, *Superintendent Eastern Division*, 180 Summer Street, Boston, Mass. J. N. Ross, *Assistant Superintendent Eastern Division*, 180 Summer Street, Boston, Mass. C. N. Chevalier, *Superintendent, Western Division*, Hartford, Conn. C. B. Phelps, *Assistant Superintendent Western Division*, Hartford, Conn. E. H. Tucker, *Superintendent Woonsocket Division*, Needham, Mass. L. W. Palmer, *Superintendent Providence Division*, Providence, R. I. P. St. M. Andrews, *Superintendent Northern and Western Division*, Norwich, Conn. A. Griggs, *Superintendent Motive Power*, Norwood Central, Mass. L. B. Bidwell, *Chief Engineer*, 180 Summer Street, Boston, Mass. R. E. Rockwell, *Purchasing Agent*, 180 Summer Street, Boston, Mass.

Name and Residence of Directors last elected.

J. A. Bostwick, New York, N. Y. Thomas Rutter, New York, N. Y. John L. Macauley, New York, N. Y. Sidney Dillon, New York, N. Y. Henry Hentz, New York, N. Y. Alexander E. Orr, New York, N. Y. E. V. Cary, New York. N. Y. Wm. A. Haskell, Boston, Mass. Charles A. Sinclair, Boston, Mass. Eustace C. Fitz, Boston, Mass. Chas. Howard, Boston, Mass. Jonas H. French, Boston, Mass. Chas. A. Prince, Boston, Mass. Nicholas Sheldon, Providence, R. I. B. F. Vaughan, Providence, R. I. Jas. L. Howard, Hartford, Conn. David S. Plume, Waterbury, Conn. George M. Landers, New Britain, Conn. Arthur Sewall, Portland, Me.

Proper Address of the Company.

NEW YORK & NEW ENGLAND RAILROAD COMPANY,
180 Summer Street, Boston, Mass.

J. A. BOSTWICK,
WM. A. HASKELL,
HENRY HENTZ,
E. V. CARY,
JONAS H. FRENCH,
CHARLES A. PRINCE,
CHAS. A. SINCLAIR,
CHARLES HOWARD,
NICHOLAS SHELDON,
EUSTACE C. FITZ,
B. F. VAUGHAN,
Directors.
GEO. B. PHIPPEN,
Treasurer.
CHARLES HOWARD,
General Manager.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Sept. 8, 1890. Then personally appeared William. A. Haskell, Jonas H. French, Charles A. Sinclair, Charles Howard, Eustace C. Fitz and George B. Phippen, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

R. D. WESTON SMITH,
Justice of the Peace.

STATE OF NEW YORK.

CITY AND COUNTY OF NEW YORK, ss. On this fifth (5th) day of September, 1890, personally appeared before me the above-named J. A. Bostwick, E. V. Cary, Nicholas Sheldon and Henry Hentz, each of whom acknowledged that he signed the foregoing report, and severally declared each for himself that the statements therein contained and by him subscribed, are true to the best of his knowledge and belief.

GERALD B. OWEN,
Notary Public No. 23, City and County of New York.

STATE OF RHODE ISLAND.

PROVIDENCE, ss. In the city of Providence this 4th day September, A. D., 1890, personally appeared before me the above-named B. F. Vaughan and made oath to the truth of the foregoing statement by him subscribed, according to the best of his knowledge and belief.

Before me,

JOHN T. BLODGETT,
Justice of the Peace.

REPORT

OF THE

NEW YORK, NEW HAVEN & HARTFORD RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

INCOME ACCOUNT.

General Exhibit for the Year.

Gross earnings from operation,		$10,749,167 54	
Less operating expenses,		7,379,774 49	
Income from operation,			$3,369,393 05
Interest on bonds owned,		$36,240 00	
Harlem River & Port Chester Railroad,	$2,940 00		
New York & New England Railroad,	7,050 00		
New Haven & Northampton Company,	26,250 00		
		36,240 00	
Dividends on stocks owned,		69,504 00	
Vermont Valley Railroad,	$14,982 00		
New Haven & Northampton Company,	12,298 00		
Hartford & Connecticut Valley Railroad,	31,984 00		
Stamford & New Canaan Railroad,	4,000 00		
Boston & New York Air Line Railroad,	4,040 00		
Connecticut & Passumpsic Railroad,	1,250 00		
Stockbridge & Pittsfield Railroad,	510 00		
New York Transfer Company,	360 00		
New York, New Haven & Hartford Railroad,	80 00		
		$69,504 00	
Miscellaneous income, less expenses:			
Rents,		106,798 45	
Interest,		6,478 75	
Income from other sources,			219,021 20
TOTAL INCOME,			3,588,414 25
Deductions from income:			
Interest on funded debt accrued during year,		$80,000 00	
Interest and discount on interest-bearing current liabilities,		69,637 78	
Taxes,		552,868 38	
Rentals,		982,888 37	
Harlem River & Port Chester Railroad,	$170,000 00		
Stamford & New Canaan Railroad,	4,000 00		

Deductions from income — *Concluded.*		
Rentals — *Concluded.*		
Naugatuck Railroad,	$206,000 00	
Boston & New York Air Line,	146,765 00	
Shore Line Railway,	100,000 00	
New Haven & Northampton Company,	324,067 37	
Hartford & Connecticut Valley Railroad,	32,056 00	
Total deductions from income,		$1,685,394 53
NET INCOME,		1,903,019 72
* Dividends paid (10 per cent.),		1,705,000 00
Surplus for year ending June 30, 1890,		198,019 72
Balance Profit and Loss Account June 30, 1889 (surplus),		3,513,821 42
TOTAL PROFIT AND LOSS ACCOUNT (SURPLUS),		3,711,841 14
Add: Premium on stock sold,		300 00
Deduct: Worthless accounts charged off,		5,613 77
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		3,706,527 37

* 5 per cent. on $15,500,000; 5 per cent. on $18,600,000.

EARNINGS FROM OPERATION.

ITEMS.	Total Receipts.	Deductions Account of Repayments, etc.	Actual Earnings.
Passenger:			
Passenger revenue,	$5,435,769 27		
Less repayments:			
Tickets redeemed,		$12,612 03	
Excess fares refunded,		25,146 40	
Total deductions,		$37,758 43	
TOTAL PASSENGER REVENUE,			$5,398,010 84
Mail,			238,324 47
Express,			276,751 20
Extra baggage and storage,			33,455 61
Other items,			
Special trains, etc.,			26,844 90
Drawing-room and sleeping-cars,			204,980 97
TOTAL PASSENGER EARNINGS,			$6,178,367 99
Freight:			
Freight revenue,	$4,522,887 41		
Less repayments:			
Overcharge to shippers,		$33,276 45	
Total deductions,		$33,276 45	
TOTAL FREIGHT REVENUE,			$4,489,610 96
Other items:			
Storage, wharfage, etc.,			31,152 11
TOTAL FREIGHT EARNINGS,			$4,520,763 07
TOTAL PASSENGER AND FREIGHT EARNINGS,			$10,699,131 06
Other earnings from operation:			
Hoisting,			$50,036 48
TOTAL GROSS EARNINGS FROM OPERATION,			$10,749,167 54

OPERATING EXPENSES.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures:			
Repairs of roadway,	$465,243 76	$286,785 88	$752,029 64
Renewals of rails,	34,588 03	21,199 11	55,787 14
Renewals of ties,	112,095 96	68,703 98	180,799 94
Repairs of bridges and culverts,			
Repairs of fences, road crossings, signs and	143,132 29	87,726 24	230,858 53
cattle guards,	23,083 16	14,147 74	37,230 90
Repairs of buildings,	209,971 19	224,991 19	434,962 38
Repairs of docks and wharves,	–	44,016 99	44,016 99
TOTAL,	$988,114 39	$747,571 13	$1,735,685 52
Maintenance of equipment:			
Repairs and renewals of locomotives,	$155,387 15	$102,845 11	$258,232 26
Repairs and renewals of passenger cars,	242,462 19	–	242,462 19
Repairs and renewals of freight cars,	–	237,567 17	237,567 17
Repairs and renewals of ferry-boats, tugs, floats and barges,	–	135,179 68	135,179 68
Shop machinery, tools, etc.,	20,105 08	12,322 46	32,427 54
Other expenses,	9,864 08	6,045 72	15,909 80
TOTAL,	$427,818 50	$493,960 14	$921,778 64
Conducting transportation:			
Wages of enginemen, firemen and roundhouse-men,	$271,557 73	$175,434 67	$446,992 40
Fuel for locomotives,	331,977 02	254,166 76	586,143 78
Water supply for locomotives,	21,651 27	13,270 13	34,921 40
All other supplies for locomotives,	33,774 16	22,920 11	56,694 27
Wages of other trainmen,	361,801 22	395,677 04	757,478 26
All other train supplies,	130,201 55	10,314 88	140,516 43
Wages of switchmen, flagmen and watchmen,	79,235 02	97,498 70	176,733 72
Expense of telegraph, including train despatchers and operators,	29,610 22	42,534 42	72,144 64
Wages of station agents, clerks and laborers,	291,275 49	659,571 78	950,847 27
Station supplies,	42,824 62	15,659 14	58,483 76
Car mileage balances,	–	132,042 32	132,042 32
Loss and damage,	4,720 38	11,135 59	15,855 97
Injuries to persons,	68,601 81	11,082 63	79,684 44
Barges, floats, tugs, ferry-boats, expenses of, including wages, fuel supplies,	–	178,688 23	178,688 23
Other expenses,	208,090 13	94,439 19	302,529 32
TOTAL,	$1,875,320 62	$2,114,435 59	$3,989,756 21
General expenses:			
Salaries of officers,	$82,095 36	$58,735 86	$140,831 22
Salaries of clerks,	40,668 46	24,925 83	65,594 29
General office expenses and supplies,	6,348 42	3,890 96	10,239 38
Advertising,	18,119 81	–	18,119 81
Insurance,	1,936 00	9,165 90	11,101 90
Expense of traffic associations,	–	606 70	606 70
Rentals not otherwise provided for,	163,025 45	17,474 94	180,500 39
Legal expenses,	88,690 65	54,214 30	142,904 95
Stationery and printing,	27,412 98	24,146 98	51,559 96
Other general expenses,	68,879 22	42,216 30	111,095 52
TOTAL,	$497,176 35	$235,377 77	$732,554 12
Recapitulation of expenses:			
Maintenance of way and structures,	$988,114 39	$747,571 13	$1,735,685 52
Maintenance of equipment,	427,818 50	493,960 14	921,778 64
Conducting transportation,	1,875,320 62	2,114,435 59	3,989,756 21
General expenses,	497,176 35	235,377 77	732,554 12
GRAND TOTAL,	$3,788,429 86	$3,591,344 63	$7,379,774 49
Percentage of operating expenses to earnings,	–	–	68.7

---

* The items in these columns which are not directly chargeable to either passenger or freight business are to be apportioned between the two on the basis of train mileage as prescribed by the Interstate Commerce Commission. The result, therefore, is not accurate, but only approximate, and this fact must be borne in mind in drawing conclusions therefrom.

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Grading and masonry,	$342,310 87
Bridging,	80,689 88
Superstructure, including rails,	224,966 77
Land, land damages and fences,	370,430 49
Passenger and freight stations, wood sheds and water stations (credit),	31,340 16
Engine houses, car sheds and turn-tables,	96,145 75
Engineering, agencies, salaries and other expenses, during construction,	374 69
TOTAL FOR CONSTRUCTION,	$1,083,578 29
Locomotives (number, 10),	87,450 00
Parlor and sleeping cars (number, 8), part cost,	12,303 68
Passenger, mail and baggage cars (number, 26), part cost,	20,704 80
Freight and other cars,	619 56
TOTAL FOR EQUIPMENT,	$121,078 04
Other expenditures charged to property account:	
New transfer steamer "Maryland,"	50,000 00
NET ADDITION TO PROPERTY ACCOUNT FOR THE YEAR,	1,254,656 33

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$18,005,055 63	
Cost of equipment,	3,461,573 13	
TOTAL PERMANENT INVESTMENTS,		$22,337,655 04
Cash,	$271,254 92	
Bills receivable,	300 00	
Due from agents,	56,062 75	
Net traffic balances due from other companies,	58,167 53	
Due from solvent companies and individuals,	271,733 64	
Other cash assets (stocks and bonds owned),	2,328,769 34	
TOTAL CASH AND CURRENT ASSETS,		2,986,288 18
Other assets: material and supplies,		627,991 81
TOTAL,		$25,951,935 03

CR.

Capital stock,		$18,600,000 00
Funded debt,		2,000,000 00
Current liabilities:		
Loans and bills payable,	$860,000 00	
Audited vouchers and accounts,	386,065 53	
Wages and salaries,	101,104 30	
Net traffic balances due to other companies,	94,693 30	
Dividends not called for,	3,909 00	
Accrued interest on funded debt not yet payable,	6,666 67	
Rentals due July 1,	53,024 00	
Rentals accrued not yet payable,	139,944 86	
TOTAL CURRENT LIABILITIES,		1,645,407 66
Profit and Loss balance,		3,706,527 37
TOTAL,		$25,951,935 03

Current Liabilities and Assets.

CURRENT LIABILITIES ACCRUING UP TO AND INCLUDING JUNE 30, 1890.

Loans and bills payable,	$860,000 00
Audited vouchers and accounts,	386,065 53
Wages and salaries,	101,104 30
Net traffic balances due to other companies,	94,693 30
Dividends not called for,	3,909 00
Rentals due July 1,	53,024 00
Rentals accrued not yet payable,	139,944 86
Accrued interest on funded debt not yet payable,	6,666 67
Balance net current assets,	1,340,880 52
TOTAL,	$2,986,288 18

CASH AND CURRENT ASSETS AVAILABLE FOR PAYMENT OF CURRENT LIABILITIES.

Cash,	$271,254 92
Bills receivable,	300 00
Due from agents,	56,062 75
Net traffic balances due from other companies,	58,167 53
Due from solvent companies and individuals,	271,733 64
Other cash assets (stocks and bonds owned),	2,328,769 34
TOTAL,	$2,986,288 18
Materials and supplies on hand (see Balance Sheet),	$627,991 81

Present or Contingent Liabilities not included in the Balance Sheet.

Bonds guaranteed by this company or a lien on its road, viz.:	
Harlem River & Port Chester Railroad, first mortgage 7 per cent. bonds due 1903,	$1,000,000 00
Harlem River and Port Chester Railroad, first mortgage 6 per cent. bonds due 1903,	1,000,000 00
Harlem River and Port Chester Railroad, second mortgage 4 per cent. bonds due 1911,	1,000,000 00
TOTAL (not included in Balance Sheet),	$3,000,000 00

CAPITAL STOCK.

Capital stock authorized by charter,	$18,600,000 00	
Capital stock authorized by votes of company,	18,600,000 00	
Capital stock issued (number of shares, 186,000); amount paid in,		$18,600,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		18,600,000 00
Total number of stockholders,	3,707	
Number of stockholders in Massachusetts,	620	
Amount of stock held in Massachusetts,	$3,195,500 00	

DEBT.

Funded debt, as follows:		
Bonds due 1903, rate of interest 4 per cent. per annum,		$2,000,000 00
Interest paid on same during year,	$80,000 00	

PASSENGER, FREIGHT AND TRAIN MILEAGE.

Passenger traffic:	
Number of passengers carried earning revenue,	13,148,140
Number of passengers carried one mile,	325,181,474
Average distance carried,	24.73
Total passenger revenue,	$5,398,010 84

Passenger traffic — *Concluded.*	
Average amount received from each passenger,	41.05 cents.
Average receipts per passenger per mile,	1.66 "
Estimated cost of carrying each passenger one mile,*.	1.10 "
Passenger earnings per mile of road,	$10,624 33
Passenger earnings per train mile,	$1 47.6
Freight traffic:	
Number of tons carried of freight earning revenue,	3,563,873
Number of tons carried one mile,	248,619,796
Average distance haul of one ton,	69.76
Total freight revenue,	$4,493,927 11
Average amount received for each ton of freight,	$1 26
Average receipts per ton per mile,	1.81 cents.
Estimated cost of carrying one ton one mile,*	1.40 "
Freight earnings per mile of road,	$8,844 92
Freight earnings per train mile,	$2 02.7
Passenger and freight:	
Passenger and freight earnings,	$9,891,937 95
Passenger and freight earnings per mile of road,	19,469 25
Expense per mile of road,	14,524 83
Total earnings per mile of road, including mails, express, etc.,	21,156 45
Train mileage:	
Miles run by passenger trains,	3,658,214
Miles run by freight trains,	2,217,377
Miles run by mixed trains,	133,031
Total mileage trains earning revenue,	6,008,622
Miles run by switching trains,	943,598
Miles run by construction and other trains,	374,499
Total train mileage,	7,326,719
Average number of persons employed,	7,362
Rates of fare:	
Average rate of fare per mile received for local tickets,	1.92 cents.
Average rate of fare per mile received for commutation tickets,	.48 cent.
Average rate of fare per mile received for mileage tickets,	2 cents.
Average rate of fare per mile received for season tickets,	.48 cent.
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies,	2 cents.
Rates of freight:	
Average rate per ton per mile received from freight waybilled local,	2.88 "
Average rate per ton per mile received from freight waybilled jointly with other railroads and transportation companies,	1.49 "

DESCRIPTION OF ROAD OWNED.

Maine line of road from Woodlawn Junction, N. Y., to Springfield, Mass.,	122.44 miles.
Main line of road in Massachusetts,	5.95 "
Main line of road in Connecticut,	102.45 "
Main line of road in New York,	14.04 "
Double track on main line,	122.44 "
Same in Massachusetts,	5.95 "
Third track on main line,	9.25 "
Fourth track on main line,	9.25 "
Branches owned by company, viz.:	
Berlin to New Britain (single track),	3.18 "
Berlin to Middletown (single track),	9.70 "
Freight branch, Hartford (single track),	.84 mile.

---

* See note under "Operating Expenses."

Branches owned by company — *Concluded.*	
Windsor Locks to Suffield (single track),	4.32 miles.
Shore Line Junction to Belle Dock, New Haven (double track),	1 mile.
Total length of branches owned by company,	19.04 miles.
Total length of branches owned by company in Connecticut,	19.04 "
Double track on branches,	1 mile.
Total road belonging to this company,	141.48 miles.
Sidings and other tracks not before enumerated,	104.82 "
Same in Massachusetts,	5.80 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	388.24 "
Same in Massachusetts,	17.70 "
Total length of tracks laid with steel rails,	328.32 "
[Weights per yard, 60 to 73½ pounds; sidings, weights per yard, 50 to 60 pounds.]	

Roads and Branches belonging to Other Companies, operated by this Company under Lease or Contract, the Operations of which are included in this Return.

Shore Line Railway,	48.53 miles.
Boston & New York Air Line Railroad,	51.50 "
Hartford & Connecticut Valley Railroad,	46.20 "
Naugatuck Railroad,	56.55 "
New Haven & Northampton Company,	94.64 "
New Hartford Branch,	14.09 "
Williamsburg Branch,	7.51 "
Turner's Falls Branch,	10.07 "
Harlem River & Port Chester Railroad,	11.50 "
Stamford & New Canaan Railroad,	7.66 "
Colchester Railway,	3.59 "
Holyoke & Westfield Railroad,	10.32 "
Watertown & Waterbury Railroad,	4.44 "
Total length of above roads,	366.60 "
Total length of above roads in Massachusetts,	71.28 "
Total length of above roads in other States (specifying each):	
Connecticut,	283.82 "
New York,	11.50 "
Total miles of road operated by this company,	508.08 "
Total miles of road operated by this company in Massachusetts,	77.23 "
Number of stations in Massachusetts on all roads operated by this company,	23
Number of telegraph offices in same,	14
Number of stations on all roads owned by this company,	62
Same in Massachusetts,	3

GENERAL INFORMATION.

New Bridges of over Ten Feet Span built within the Year on Roads operated in Massachusetts (including Those replacing Old Structures and Those built where None before existed).

Location.	To Replace.	Description.	Length of Spans and Number of Tracks.	When and by Whom Built.
Over Elm Street, Westfield.	To eliminate Grade crossing.	Iron Pratt truss.	110 ft. 8½ in., 2 tracks.	September, 1889. N. U. Steel & Iron Co., Trenton, N. J.
1½ miles north of Easthampton.	To eliminate Grade crossing.	Half through plate girder.	30 ft. 9 in., 1 track.	October, 1889. Passaic Rolling Mill Co., Paterson, N. J.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade, ...	9
Number of crossings of highways under railroad, . . .	3
Number of crossings at which gates or flagman are maintained, ...	3
Number of crossings at which there are neither signals nor flagman, ...	6

DESCRIPTION OF EQUIPMENT.

	Number Owned.	Number Leased.	Total Number.	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.	Number Equipped with Patent Coupler.
Locomotives:				Lbs.	Lbs.			
Passenger, . .	80	28	108	112,590	70,646	108	52	6
Freight, . .	46	20	66	112,900	78,584	51	10	-
Other, . . .	26	9	35	102,500	59,546	-	16	-
TOTAL, . .	152	57	209	-	69,592	159	78	6
Passenger cars, .	306	65	371	58,000	53,000	371	-	371
Combination cars, .	36	16	52	58,000	50,000	52	-	52
Baggage, mail and express cars, .	90	23	113	50,000	44,000	113	-	113
Parlor cars, . .	32	-	32	66,000	55,000	32	-	32
Dining cars, . .	1	-	1	80,000	80,000	1	-	1
Sleeping cars, . .	10	-	10	78,000	66,000	10	-	10
Directors' and pay cars, . . .	4	-	4	50,000	47,500	4	-	4
TOTAL, . .	479	104	583	-	-	583	-	583
Box freight cars (basis of 8 wheels),	1,458	512	1,970	31,000		128	-	78
Stock freight cars (basis of 8 wheels),	3	1	4	22,000	22,000	-	-	-
Coal freight cars (basis of 8 wheels),	597	643	1,240	25,000	20,000	-	-	-
Flat freight cars (basis of 8 wheels),	566	105	671	20,000	17,500	-	-	-
TOTAL, . .	2,624	1,261	3,885	-	-	128	-	78
Cars in company's service:								
Gravel cars, . .	285	120	405	9,500	9,500	-	-	-
Derrick cars, .	6	5	11			-	-	-
Caboose cars, .	46	15	61	22,000	20,000	-	-	-
Other road cars, .	10	6	16	-	-	-	-	-
TOTAL, . .	347	146	493	-	-	-	-	-

Number of cars in passenger equipment with 8 wheels fitted with brakes for all wheels, ... *All.

---

* In addition to the above, this company owns 3–10 of 20 drawing-room and 8 sleeping cars in Wagner Shore Line, and 124–232 of 11 baggage, 7 smoking, 2 postal, 2 combination and 19 coaches in Boston & New York Shore Line Express.

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL (IN MASSACHUSETTS).		FROM THEIR OWN MISCONDUCT OR CARELESSNESS (IN MASSACHUSETTS).		TOTAL IN MASSACHUSETTS.		TOTAL ON WHOLE ROAD OPERATED.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, .	-	3	-	1	-	4	-	30
Employees, .	-	3	-	-	-	3	24	211
Others, . .	-	-	-	-	-	-	62	56
TOTAL, .	-	6	-	1	-	7	86	297

STATEMENT OF EACH ACCIDENT IN MASSACHUSETTS.

August 17, 1889. — John McMasters, brakeman in Springfield yard, fell from top of box car, injuring his back.

September 1. — Daniel Callahan and Abbie, his wife, of Hartford, and Kate Donahey of Holyoke, injured at Springfield, on Boston & Albany track, Train No. 49.

December 4. — Hugh McManus, brakeman in Springfield yard, had left hand pinched and finger broken, coupling cars.

January 20, 1890. — John H. Coffey, brakeman in Springfield yard, had finger injured, coupling cars.

April 29. — Henry O. Kiblin jumped from train No. 83 soon after train started from Boston & Albany depot, Springfield. Foot went under wheels, rendering amputation necessary.

NAME AND RESIDENCE OF OFFICERS.

Charles P. Clark, *President*, New Haven, Conn. E. M. Reed, *Vice-President*, New Haven, Conn. Lucius Tuttle, *General Manager*, New Haven, Conn. H. M. Kochersperger, *Comptroller*, New Haven, Conn. Charles Rockwell *General Freight Agent*, New Haven, Conn. C. T. Hempstead, *General Passenger Agent*, New Haven, Conn. W. L. Squire, *Treasurer*, New Haven, Conn. William D. Bishop, Jr., *Clerk of Corporation*, Bridgeport, Conn.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

George N. Miller, New York, N. Y. Wilson G. Hunt, New York, N. Y. E. H. Trowbridge, New Haven, Conn. William D. Bishop, Bridgeport, Conn. Nathaniel Wheeler, Bridgeport, Conn. Henry C. Robinson, Hartford, Conn. Edward M. Reed, New Haven, Conn. Charles P. Clark, New Haven, Conn. Joseph Park, New York, N. Y. Chauncey M. Depew, New York, N. Y. Henry E. Lee, Springfield, Mass. William Rockefeller, New York, N. Y. Leverett Brainard, Hartford, Conn.

PROPER ADDRESS OF THE COMPANY.
NEW YORK, NEW HAVEN & HARTFORD RAILROAD COMPANY,
NEW HAVEN, CONN.

CHARLES P. CLARK,
LEVERETT BRAINARD,
HENRY S. LEE,
N. WHEELER,
WM. D. BISHOP,
E. H. TROWBRIDGE,
EDWARD M. REED,
JOSEPH PARK,
WILSON G. HUNT,
GEO. N. MILLER,
HENRY C. ROBINSON,
Directors.
LUCIUS TUTTLE,
General Manager.
WILLIAM L. SQUIRE,
Treasurer.

COMMONWEALTH OF NEW YORK.

CITY AND COUNTY OF NEW YORK, ss. Sept. 13, 1890. Then personally appeared Charles P. Clark, Leverett Brainard, Henry S. Lee, N. Wheeler, William D. Bishop, E. H. Trowbridge, Edward M. Reed, Joseph Park, Wilson G. Hunt, George N. Miller and Henry C. Robinson, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

FRANK E. HALL,
Notary Public.

STATE OF CONNECTICUT.

COUNTY OF NEW HAVEN, ss. Sept. 18, 1890. Then personally appeared Lucius Tuttle and William L. Squire, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

A. S. MAY,
Notary Public.

REPORT

OF THE

NORTH BROOKFIELD RAILROAD COMPANY,

For the Year ending June 30, 1890.

[This road is leased to and operated by the Boston & Albany Railroad Company.]

Income Account.

General Exhibit for the Year.

Income from lease of road,	$3,000 00	
Miscellaneous income, less expenses:		
Rent of hall, over depot,	125 00	
Interest on deposit,	6 79	
Total Income,		$3,131 79
Salaries and maintenance of organization,	$3 00	
Taxes,	207 78	
Total,		210 78
Net Income,		2,921 01
Dividends declared (3 per cent.),		3,000 00
Deficit for year ending June 30, 1890,		78 99
Balance Profit and Loss Account June 30, 1889 (surplus),		5,778 37
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		5,699 38

General Balance Sheet June 30, 1890.

Dr.

Cost of road,	$105,456 79	
Safe,	75 00	
Total Permanent Investments,		$105,531 79
Cash,		167 59
Total,		$105,699 38

Cr.

Capital stock,		$100,000 00
Profit and Loss balance,		5,699 38
Total,		$105,699 38

Capital Stock.

Capital stock authorized by charter,	$100,000 00	
Capital stock authorized by votes of company,	100,000 00	
Capital stock issued (number of shares, 1,000); amount paid in,		$100,000 00
Total Amount paid in as per Books of the Company,		100,000 00
Total number of stockholders,	49	
Number of stockholders in Massachusetts,	48	
Amount of stock held in Massachusetts,	$99,900 00	

Description of Road Owned.

Main line of road from North Brookfield to East Brookfield,	4.160 miles.
Main line of road in Massachusetts,	4.160 "
Total road belonging to this company,	4.160 "
Sidings and other tracks not before enumerated,	.490 mile.
Same in Massachusetts,	.490 "
Total Length of Track Owned, computed as Single Track,	4.650 miles.
Same in Massachusetts,	4.650 "
Total length of tracks laid with steel rails,	4.160 "

General Information.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	1
Number of crossings at which there are neither signals nor flagman,	1

Name and Residence of Officers.

Bonum Nye, *President*, North Brookfield, Mass. Alden Batcheller, *Vice-President*, North Brookfield, Mass. John B. Dewing, *Treasurer*, North Brookfield, Mass. Theodore C. Bates, *Clerk of Corporation*, North Brookfield, Mass.

Name and Residence of Directors last elected.

Bonum Nye, Alden Batcheller, Theodore C. Bates, John B. Dewing, William H. Montague, James Miller and James Downey, all of North Brookfield, Mass.

Proper Address of the Company.

NORTH BROOKFIELD RAILROAD COMPANY,
North Brookfield, Mass.

BONUM NYE,
JOHN B. DEWING,
WILLIAM H. MONTAGUE,
JAMES MILLER,
JAMES DOWNEY,
Directors.

JOHN B. DEWING,
Treasurer.

Commonwealth of Massachusetts.

Worcester, ss. Sept. 15, 1890. Then personally appeared Bonum Nye, John B. Dewing, Wm. H. Montague, James Miller and James Downey, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

CHARLES E. BACHELLER,
Justice of the Peace.

REPORT

OF THE

NORWICH & WORCESTER RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the New York & New England Railroad Company.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,	$233,774 00	
Miscellaneous income, less expenses:		
Premium on 225 shares preferred stock,	17,381 25	
Interest on deferred payment on stock sold, less expense selling,	13 72	
Interest on investments,	2,591 14	
TOTAL INCOME,		$253,760 11
Salaries and maintenance of organization,	$140 00	
Interest on funded debt,	24,000 00	
TOTAL,		24,140 00
NET INCOME,		229,620 11
Dividends declared (8 per cent.), 26,203 shares,	$209,624 00	
Balance on account dividend month of June, 1889, not allowed at the time of last annual report,	150 00	
		209,774 00
Surplus for year ending June 30, 1890,		19,846 11
Balance Profit and Loss Account June 30, 1889 (surplus),		761,741 83
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		781,587 94

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Bridging,	$1,429 46
Passenger and freight stations, woodsheds and water stations,	381 66
Engine houses, car sheds and turn tables,	34,607 51
TOTAL FOR CONSTRUCTION,	$36,418 63

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$3,608,741 49	
Cost of equipment,	179,750 67	
Stock of Norwich & New York Transportation Company,	270,000 00	
Lands in Massachusetts,	3,107 08	
TOTAL PERMANENT INVESTMENTS,		$4,061,599 24

Cash,	$128,901 74	
Due from solvent companies and individuals,	20,237 97	
Other cash assets,	420 00	
Total Cash and Current Assets,		$149,559 71
Materials and supplies,		42,478 62
Total,		$4,253,637 57

Cr.

Capital stock: Common,	$6,600 00	
Capital stock: Preferred,	2,620,300 00	
Total Capital Stock,		$2,626,900 00
Funded debt,		400,000 00
Current liabilities:		
Loans and bills payable,	$310,000 00	
Audited vouchers and accounts,	1,425 96	
Dividends not called for,	3,023 00	
Matured interest coupons unpaid (including coupons due July 1),	420 00	
Accrued interest on funded debt not yet payable,	8,000 00	
Rentals due July 1,	122,280 67	
Total Current Liabilities,		445,149 63
Profit and Loss balance,		781,587 94
Total,		$4,253,637 57

Capital Stock.

Capital stock authorized by charter,	$3,825,000 00	
Capital stock authorized by votes of company,	3,825,000 00	
Capital stock issued (number of shares, 26,269); amount paid in,		$2,626,900 00
Total Amount paid in as per Books of the Company,		2,626,900 00
Total number of stockholders,	794	
Number of stockholders in Massachusetts,	626	
Amount of stock held in Massachusetts,	$2,037,500 00	

Debt.

Funded debt, as follows:		
First mortgage bonds due 1897, rate of interest 6 per cent.,		400,000 00
Interest paid on same during year,	$24,000 00	

Description of Road Owned.

Main line of road from Allyn's Point to Worcester, including New London Northern connection at Norwich,	66.16 miles.
Main line of road in Massachusetts,	18.24 "
Main line of road in Connecticut,	47.92 "
Total road belonging to this company,	66.16 "
Sidings and other tracks not before enumerated,	21.30 "
Same in Massachusetts,	7.60 "
Total Length of Track owned, computed as Single Track,	87.46 "
Same in Massachusetts,	25.84 "
Total length of tracks laid with steel rails,	60.75 "

[Weights per yard, 60 pounds.]

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade, ...	29
Number of crossings of highways over railroad, . . .	2
Number of crossings of highways under railroad, . . .	5
Number of highway bridges 18 feet above track, . . .	2
Height of lowest bridge above the rail, ...	18
Number of crossings at which gates or flagman are maintained, ...	7
Number of crossings at which there are neither signals nor flagman, ...	22
Railroad crossings at grade (specifying each), . . .	2
New York & New England at Webster.	
Boston & Albany at South Worcester.	
Number of railroad crossings under other railroads (specifying each), ...	1
Webster Branch of Boston & Albany at North Webster.	

NAME AND RESIDENCE OF OFFICERS.

George H. Ball, *President*, Boston, Mass. P. St. M. Andrews, *Managing Agent*, Norwich, Conn. M. M. Whittemore, *Treasurer and Clerk of Corporation.*

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Edward L. Davis, Worcester, Mass. George H. Ball, Boston, Mass. W. Bayard Cutting, New York, N. Y. Francis H. Dewey, Worcester, Mass. Thos. B. Eaton, Worcester, Mass. Jeremiah Halsey, Norwich, Conn. Josiah H. Clarke, Worcester, Mass. A. George Bullock, Worcester, Mass. William A. Slater, Norwich, Conn.

PROPER ADDRESS OF THE COMPANY.

NORWICH & WORCESTER RAILROAD COMPANY,
NORWICH, CONN.

GEORGE H. BALL,
EDWARD L. DAVIS,
JOSIAH H. CLARKE,
FRANCIS H. DEWEY,
THOS. B. EATON,
Directors.
M. M. WHITTEMORE,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

WORCESTER, SS. Sept. 2, 1890. Then personally appeared Josiah H. Clarke, Francis H. Dewey, Edward L. Davis and Thomas B. Eaton, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

BENJAMIN THOMAS HILL,
Justice of the Peace.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS. BOSTON, Aug. 28, 1890. Then personally appeared George H. Ball, President, and M. M. Whittemore, Treasurer of the Norwich & Worcester Railroad Company, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

C. E. STEVENS,
Justice of the Peace.

REPORT

OF THE

OLD COLONY RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

INCOME ACCOUNT.

General Exhibit for the Year.

Gross earnings from operation,	$7,845,433 22	
Less operating expenses,	5,885,238 37	
Income from operation,		$1,960,194 65
Interest on bonds owned:		
Fall River, Warren & Providence Railroad Company,	$6,757 53	
Dividends on stock owned:		
Union Freight Railroad Company,	10,045 00	
Old Colony Steamboat Company,	96,730 00	
New Bedford, Martha's Vineyard & Nantucket Steamboat Company,	3,200 00	
Rentals for tracks, yards and terminals,	33,199 88	
Miscellaneous income, less expenses:		
Dividends on Providence, Warren & Bristol Railroad stock held under lease,	8,946 00	
Dividends on Union Freight Railroad stock held under lease,	10,045 00	
Premium on stock sold,	295,931 26	
Premium on bonds sold,	64,800 00	
Rent of buildings, tenements, etc.,	66,450 21	
Sale of gravel,	14,339 90	
South Boston, Somerset and India Point wharves, etc.,	60,872 18	
Total income from other sources,		671,316 96
TOTAL INCOME,		2,631,511 61
Deductions from income:		
Interest on funded debt accrued during year,	$620,680 00	
Interest and discount on interest-bearing current liabilities,	37,995 74	
Taxes,	433,579 90	
Rentals,	584,605 53	
Rentals for tracks, yards and terminals,	5,869 08	
Total deductions from income,		1,682,730 25
NET INCOME,		948,781 36
Dividends declared (7 per cent. on common stock),		844,683 00
Surplus for year ending June 30, 1890,		104,098 36
Balance Profit and Loss Account June 30, 1889 (surplus),		611,886 19
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		715,984 55

Earnings from Operation.

Items.	Total Receipts.	Deductions Account of Repayments, etc.	Actual Earnings.
Passenger:			
Passenger revenue,	$4,573,871 28		
Less repayments:			
Tickets redeemed,		$3,436 80	
Excess fares refunded,		29,373 17	
Total deductions,		$32,809 97	
Total Passenger Revenue,			$4,541,061 31
Mail,			56,642 54
Express,			216,454 85
Extra baggage and storage,			31,862 39
Total Passenger Earnings,			$4,846,021 09
Freight:			
Freight revenue,	$3,013,198 37		
Less repayments:			
Overcharge to shippers,		$13,786 44	
Total deductions,		$13,786 44	
Total Freight Earnings,			$2,999,411 93
Total Gross Earnings from Operation,			$7,845,433 02

Operating Expenses.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures:			
Repairs of roadway,	$532,816 01	$226,377 58	$759,193 59
Renewals of rails,	47,332 32	20,110 08	67,442 40
Renewals of ties,	81,537 40	34,642 79	116,180 19
Repairs of bridges and culverts,	59,321 49	25,203 93	84,525 42
Repairs of fences, road crossings, signs and cattle guards,	37,205 13	15,807 34	53,012 47
Repairs of buildings,	279,689 82	114,559 49	394,249 31
Repairs of docks and wharves,	14,140 96	6,008 06	20,149 02
Repairs of telegraph and electric signals,	26,251 69	11,153 56	37,405 25
Total,	$1,078,294 82	$453,862 83	$1,532,157 65
Maintenance of equipment:			
Repairs and renewals of locomotives,	$175,016 15	$113,565 52	$288,581 67
Repairs and renewals of passenger cars,	410,751 79	–	410,751 79
Repairs and renewals of freight cars,	–	251,270 03	251,270 03
Shop machinery, tools, etc.,	15,118 65	6,423 46	21,542 11
Total,	$600,886 59	$371,259 01	$972,145 60
Conducting transportation:			
Wages of enginemen, firemen and roundhouse-men,	$258,289 56	$176,939 80	$435,229 36
Fuel for locomotives,	368,708 01	236,263 25	604,971 26
Water supply for locomotives,	26,527 49	11,270 74	37,798 23
All other supplies for locomotives,	22,116 25	14,215 67	36,331 92
Wages of other trainmen,	328,115 30	281,268 27	609,383 57
All other train supplies,	72,835 82	9,922 49	82,758 31
Wages of switchmen, flagmen and watchmen,	226,382 67	96,183 22	322,565 89
Expense of telegraph, including train despatchers and operators,	29,493 19	12,530 77	42,023 96
Wages of station agents, clerks and laborers,	225,899 14	409,928 64	635,827 78
Station supplies,	83,544 70	17,891 73	101,436 43
Car mileage balances,	–	41,181 95	41,181 95
Loss and damage,	8,473 23	17,863 79	26,337 02
Injuries to persons,	91,086 32	37,024 13	128,110 45
Total,	$1,741,471 68	$1,362,484 45	$3,103,956 13

---

* See note under "Operating Expenses," on page 218.

Operating Expenses — *Concluded.*

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
General expenses:			
Salaries of officers,	$25,106 16	$10,666 85	$35,773 01
Salaries of clerks,	47,327 44	20,108 01	67,435 45
General office expenses and supplies,	8,725 32	3,707 13	12,432 45
Agencies, including salaries and rent,	3,349 31	-	3,349 31
Advertising,	30,613 91	13,006 70	43,620 61
Insurance,	10,924 62	4,641 54	15,566 16
Rentals not otherwise provided for,	2,571 46	1,092 54	3,664 00
Legal expenses,	17,278 17	7,340 98	24,619 15
Stationery and printing,	34,637 34	22,491 43	57,128 77
Other general expenses,	9,397 40	3,992 68	13,390 08
TOTAL,	$189,931 13	$87,047 86	$276,978 99
Recapitulation of expenses:			
Maintenance of way and structures,	$1,078,294 82	$453,862 83	$1,532,157 65
Maintenance of equipment,	600,886 59	371,259 01	972,145 60
Conducting transportation,	1,741,471 68	1,362,484 45	3,103,956 13
General expenses,	189,931 13	87,047 86	276,978 99
GRAND TOTAL,	$3,610,584 22	$2,274,654 15	$5,885,238 37
Percentage of operating expenses to earnings,	-	-	75.01

* The items in these columns which are not directly chargeable to either passenger or freight business are to be apportioned between the two on the basis of train mileage as prescribed by the Interstate Commerce Commission. The result, therefore, is not accurate, but only approximate, and this fact must be borne in mind in drawing conclusions therefrom.

Property Accounts: Charges and Credits during the Year.

Grading and masonry,	$410,182 92	
Bridging,	23,070 23	
Superstructure, including rails,	114,573 75	
Lands, land damages and fences,	317,988 66	
Passenger and freight stations, wood sheds and water stations,	2,432 57	
Machine shops,	6,415 00	
Engineering, agencies, salaries and other expenses during construction,	9,522 20	
TOTAL FOR CONSTRUCTION,		$884,185 33
TOTAL FOR EQUIPMENT,*		16,338 93
TOTAL CHARGES TO PROPERTY ACCOUNTS,		$900,524 26
Property sold (or reduced in valuation on the books) and credited property accounts during the year:		
Sale of land,	$1,000 00	
Charged to expense from Boston & Providence Railroad lease and improvement account.,	34,617 71	
Total credits to property accounts,		35,617 71
NET ADDITION TO PROPERTY ACCOUNT FOR THE YEAR,		$864,906 55

---

* 8 per cent. of 4 drawing-room cars; 11-58 per cent. of 8 passenger and baggage cars; 11-27 per cent. of 1 dining car.

General Balance Sheet June 30, 1890.

Dr.

Cost of road,	$19,826,558 63	
Cost of equipment,	2,244,712 23	
Bonds and stock of Fall River, Warren & Providence Railroad Company,	348,655 43	
Stock of Sea View Hotel and Wharf Company,	7,270 00	
Stock of Oak Bluffs Land & Wharf Company,	100 00	
Stock of Old Colony Steamboat Company,	967,300 00	
Stock of New Bedford, Martha's Vineyard & Nantucket Steamboat Company,	15,340 83	
Stock of Union Freight Railroad,	79,014 42	
Stock of Lowell & Framingham Railroad Company,	10,529 69	
Stock of Fall River Railroad Company,	5,967 00	
Lands in Massachusetts,	457,085 44	
Lands in Rhode Island,	40,100 00	
TOTAL PERMANENT INVESTMENTS,		$24,002,633 67
Cash,	$800,973 49	
Bills receivable,	90,685 02	
Due from agents,	260,203 28	
Due from solvent companies and individuals,	266,535 60	
Other cash assets,	94,515 00	
TOTAL CASH AND CURRENT ASSETS,		1,512,912 39
Other assets:		
Materials and supplies,	575,143 19	
Boston & Providence Railroad lease account,	1,270,750 00	
TOTAL OTHER ASSETS,		1,845,893 19
TOTAL,		$27,361,439 25

Cr.

Capital stock:		
Common,	$12,366,900 00	
Liability on outstanding stock,	9,625 00	
TOTAL CAPITAL STOCK,		$12,376,525 00
Funded debt,		11,615,400 00
Current liabilities:		
Loans and bills payable,	$934,561 10	
Audited vouchers and accounts,	344,608 22	
Wages and salaries,	319,775 43	
Net traffic balances due to other companies,	346,441 26	
Dividends not called for,	26,737 41	
Dividends due July 1,	425,841 50	
Matured interest coupons unpaid (including coupons due July 1),	131,661 00	
Accrued interest on funded debt not yet payable,	121,057 50	
Rentals due July 1,	2,846 28	
TOTAL CURRENT LIABILITIES,		2,653,529 70
Profit and Loss balance,		715,984 55
TOTAL,		$27,361,439 25

CAPITAL STOCK.

Capital stock authorized by charter,	$15,000,000 00	
Capital stock authorized by votes of company,	15,000,000 00	
Capital stock issued (number of shares, 123,669); amount paid in,		$12,366,900 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		12,366,900 00
Total number of stockholders,	6,013	
Number of stockholders in Massachusetts,	5,628	
Amount of stock held in Massachusetts,	$11,687,400 00	

DEBT.

Funded debt, as follows:

New Bedford & Taunton Railroad mortgage bonds due July 1, 1881, rate of interest 6 per cent.,		$1,000 00
Fitchburg & Worcester Railroad mortgage bonds due Oct. 1, 1881, rate of interest 7 per cent.,		400 00
Agricultural Branch Railroad mortgage bonds due July 1, 1884, rate of interest 6 per cent.,		4,000 00
Lowell & Framingham Railroad bonds due April 1, 1891, rate of interest 5 per cent.,		2,000 00
Interest paid on same during year,	$100 00	
Old Colony Railroad bonds due April 1, 1891, rate of interest 5 per cent.,		56,000 00
Interest paid on same during year,	$2,825 00	
Old Colony Railroad bonds due March 1, 1894, rate of interest 7 per cent.,		1,692,000 00
Interest paid on same during year,	$117,880 00	
New Bedford Railroad mortgage bonds due July 1, 1894, rate of interest 7 per cent.,		400,000 00
Interest paid on same during year,	$28,035 00	
Old Colony Railroad bonds due June 1, 1895, rate of interest 6 per cent.		500,000 00
Interest paid on same during year,	$30,120 00	
Old Colony Railroad bonds due Sept. 1, 1896, rate of interest 6 per cent.,		1,100,000 00
Interest paid on same during year,	$65,940 00	
Old Colony Railroad bonds due Aug. 1, 1897, rate of interest 6 per cent.,		2,000,000 00
Interest paid on same during year,	$120,480 00	
Boston, Clinton, Fitchburg & New Bedford Railroad mortgage bonds due Jan. 1, 1910, rate of interest 5 per cent.,		1,912,000 00
Interest paid on same during year,	$95,725 00	
Old Colony Railroad bonds due April 1, 1904, rate of interest 4½ per cent.,		498,000 00
Interest paid on same during year,	$22,355 00	
Old Colony Railroad bonds due July 1, 1904, rate of interest 4 per cent.,		750,000 00
Interest paid on same during year,	$30,000 00	
Old Colony Railroad bonds due Jan. 1, 1938, rate of interest 4 per cent.,		2,500,000 00
Interest paid on same during year,	$73,200 00	
Old Colony Railroad bonds due Dec. 1, 1897, rate of interest 4½ per cent.,		202,000 00
Interest paid on same during year,	$9,000 00	
Interest paid on Mansfield & Framingham Railroad mortgage bonds matured July 1, 1889, rate of interest 7 per cent.,	$8,995 00	
Interest paid on Boston, Clinton & Fitchburg Railroad mortgage bonds matured Jan. 1, 1890, rate of interest 7 per cent.,	$16,537 50	
TOTAL AMOUNT OF FUNDED DEBT,		$11,615,400 00

Passenger, Freight and Train Mileage.

Passenger traffic:	
Number of passengers carried earning revenue,	21,305,226
Number of passengers carried one mile,	249,441,807
Average distance carried,	11.70
Total passenger revenue,	$4,541,061 31
Average amount received from each passenger,	21.314 cents.
Average receipts per passenger per mile,	1.82 "
Estimated cost of carrying each passenger one mile,*	1.447 "
Passenger earnings per mile of road,	$8,599 09
Passenger earnings per train mile,	$1 51.6
Freight traffic:	
Number of tons carried of freight earning revenue,	3,076,198
Number of tons carried one mile,	112,893,604
Average distance haul of one ton,	36.69
Total freight revenue,	$2,999,411 93
Average amount received for each ton of freight,	97.5 cents.
Average receipts per ton per mile,	2.657 "
Estimated cost of carrying one ton one mile,*	2.215 "
Freight earnings per mile of road operated,	$5,322 35
Freight earnings per train mile,	$2 05.2
Passenger and freight:	
Passenger and freight earnings,	$7,845,433 02
Passenger and freight earnings per mile of road operated,	13,380 31
Expense per mile of road,	10,443 15
Total earnings per mile of road, including mails, express, etc.,	13,921 44
Train mileage:	
Miles run by passenger trains,	3,427,903
Miles run by freight trains,	1,426,221
Miles run by mixed trains,	46,899
Total mileage trains earning revenue,	4,901,023
Miles run by switching trains,	951,002
Miles run by construction and other trains,	339,439
Total train mileage,	6,191,464
Mileage of loaded freight cars,	29,237,531
Mileage of empty freight cars,	14,262,210
Average number of freight cars in train,	30.5
Average number of loaded cars in train,	20.5
Average number of empty cars in train,	10
Average number of tons of freight in train,	79.16
Average number of tons of freight in each loaded car,	3.86
Average number of persons employed,	6.002
Rates of fare:	
Average rate of fare per mile received for local tickets,	2.04 cents.
Average rate of fare per mile received for commutation tickets,	1.84 "
Average rate of fare per mile received for mileage tickets,	2 "
Average rate of fare per mile reeeived for season tickets,	.77 cent.
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies,	2.17 cents.
Rates of freight:	
Average rate per ton per mile received from freight way-billed local,	3.1 "
Average weight per ton per mile received from freight way-billed jointly with other railroads and transportation companies,	2 "
Relating to passengers:	
Passengers to Boston (including season),	6,250,917
Passengers from Boston (including season),	6,293,027
Season-ticket passengers to and from Boston,	1,034,093

---

* See note under "Operating Expenses."

DESCRIPTION OF ROAD OWNED.

Main line of road from Boston to Plymouth, Provincetown, New Bedford and Newport, and from Taunton to Fitchburg, and Framingham to Lowell,	368.89 miles.
Main line of road in Massachusetts,	352.70 “
Main line of road in Rhode Island,	16.19 “
Double track on main line,	114.50 “
Same in Massachusetts,	114.50 “
Branches owned by company, viz:	
Dorchester & Milton Branch (single track),	3.30 “
Stoughton Branch (double track),	1.65 “
Shawmut Branch (single track),	2.39 “
Bridgewater Branch (single track),	6.12 “
Brockton Branch (single track),	.75 mile.
Granite Branch (single track),	5.41 miles.
Hyannis Branch (single track),	5.05 “
Woods Holl Branch (single track),	17.54 “
Middleborough & Taunton Branch (single track),	8.04 “
Extension of Fall River, Warren & Providence Railroad (single track),	2.16 “
Pratt's Junction to Sterling Junction (single track),	5.03 “
Lancaster Branch (single track),	1.63 “
Marlborough Branch (single track),	1.47 “
Framingham Prison Branch (single track),	.62 mile.
Attleborough Branch (single track),	8.60 miles.
Acushnet Branch (single track),	.35 mile.
Fairhaven Branch (single track),	15.17 miles.
Hanover Branch (single track),	7.80 “
Easton Branch (single track),	7.56 “
Wrentham Branch (single track),	12.85 “
Total length of branches owned by company,	113.49 “
Total length of branches owned by company in Massachusetts,	113.49 “
Double track on branches,	1.65 “
Same in Massachusetts,	1 65 “
Total road belonging to this company,	482.38 “
Sidings and other tracks not before enumerated,	187.81 “
Same in Massachusetts,	185 “
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	786 34 “
Same in Massachusetts,	767.34 “
Total length of tracks laid with steel rails,	605.21 “
[Weights per yard, 50, 56, 58, 60, 67, 70 pounds.]	

Roads and Branches belonging to other Companies, operated by this Company under Lease or Contract, the Operations of which are included in this Return.

Fall River Railroad,	12.25 miles.
Chatham Railroad,	7.07 “
Nantasket Beach Railroad,	6.95 “
Boston & Providence Railroad,	63.75 “
Attleborough Branch Railroad,	4 “
Total length of above roads,	94.02 “
Total length of above roads in Massachusetts,	83.60 “
Total length of above roads in Rhode Island,	10.42 “
Total miles of road operated by this company,	563.55* “
Total miles of road operated by this company in Massachusetts,	536.94 “
Number of stations in Massachusetts on all roads operated by this company,	281
Number of telegraph offices in same,	163
Number of stations on all roads owned by this company,	225
Same in Massachusetts,	218

---

* Wrentham Branch 12.85 miles, not in operation June 30, 1890, and not included.

General Information.

New Bridges of over Ten Feet Span built within the Year on Roads operated in Massachusetts (including Those replacing Old Structures and Those built where None before existed).

No.	Location.	To Replace.	Description.	Length of Spans and Number of Tracks.	When and by Whom Built.
339	Plympton.	New.	Plate girder.	1 span, 26 ft., single.	August, 1889. Boston Bridge Works.
27	Quincy.	Old bridge.	Trestle bridge, wood.	2 span, 18 ft., double.	August, 1889. Old Colony Railroad.
281	Brockton.	New.	Plate girder.	1 span, 28 ft., 2 side tracks.	September, 1889. Boston Bridge Works.
417	East Bridgewater.	Old bridge.	Wooden stringers.	1 span, 11 ft., single.	September, 1889. Old Colony Railroad.
621	Framingham.	Old bridge.	Plate girder.	1 span, 30 ft., single.	October, 1889. Boston Bridge Works.
577	Framingham.	Old bridge.	Iron riveted trusses.	1 span, 72 ft., double.	December, 1889. Boston Bridge Works.
703	Middleborough.	Old bridge.	Wooden stringers.	1 span, 13 ft., single.	December, 1889. Old Colony Railroad.
701	Middleborough.	Old bridge.	Wooden stringers.	1 span, 13 ft., single.	January, 1890. Old Colony Railroad.
363	Weymouth.	New.	Plate girder.	1 span, 24 ft., single.	January, 1890. Boston Bridge Works.
611	Clinton.	Old bridge.	Pile bridge.	204 ft., single.	February, 1890. Old Colony Railroad.
615	Clinton.	Old bridge.	Pile bridge.	120 ft., single.	February, 1890. Old Colony Railroad.
121	Fall River.	Old bridge.	Wooden stringers.	1 span, 15 ft., single.	May, 1890. Old Colony Railroad.
123	Fall River.	Old bridge.	Wooden stringers.	1 span, 16 ft., double.	May, 1890. Old Colony Railroad.
125	Fall River.	Old bridge.	Wooden stringers.	1 span, 16 ft., double.	May, 1890. Old Colony Railroad.
127	Fall River.	Old bridge.	Wooden stringers.	1 span, 12 ft., double.	May, 1890. Old Colony Railroad.
129	Fall River.	Old bridge.	Wooden stringers.	1 span, 11 ft., double.	May, 1890. Old Colony Railroad.
133	Fall River.	Old bridge.	Wooden stringers.	1 span, 14½ ft., double.	May, 1890. Old Colony Railroad.
373	Hingham.	New, 2d track.	Pile bridge.	296½ ft., single.	May, 1890. Ross & Harris.

BOSTON & PROVIDENCE RAILROAD.

No.	Location.	To Replace.	Description.	Length of Spans and Number of Tracks.	When and by Whom Built.
-	Mansfield.	Old bridge.	Iron eye beams.	1 span, 20 ft., double.	August, 1889. Boston Bridge Works.
-	Attleborough.	Old bridge.	Wooden stringers.	1 span, 3 tracks.	August, 1889. Old Colony Railroad.

Bridges on Roads Operated in Massachusetts.	
Total length of pile and trestle bridging, ...	15,500 ft. 9 in.
Bridges abolished during the year (specifying how):	
No. 265. Wooden stringer at Taunton, filled up July, 1889.	
No. 609. Pile bridge at Clinton, 168 feet, filled up May, 1890.	
No. 283. Pile bridge at Brockton, 43 feet long, filled up June, 1890.	
No. 491. Pile bridge at Hull, 787 feet long, filled up May, 1890.	
No. 41. Stringer bridge at Attleborough, 14 feet, filled up August, 1889.	
Bridges extensively repaired during the year (specifying how):	
No. 489. Pile bridge at Hingham has had new stringer ties in February, 1890.	
No. 613. Pile bridge at Clinton has had new stringer ties in February, 1890.	

Bridges repaired during the year — *Concluded.*	
No. 617. Howe Truss at Clinton has had additional truss rods and new floor beams, where needed.	
No. 475. Bridge at Fall River has had additional stringers and new ties in July, 1890.	
No. 237. Bridge at Fall River has been strengthened and painted.	
Total amount expended for repairs and renewals of bridges, .	$84,525 42
Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade, ...	593
Number of crossings of highways over railroad, . . .	80
Number of crossings of highways under railroad (one built in Plympton), ...	24
Number of highway bridges 18 feet above track, . . .	19
Number of highway bridges less than 18 feet above track, .	61
Height of lowest bridge above the rail, ...	14 feet.
Number of crossings at which gates or flagman are maintained,	257
Number of crossings at which electric signals are maintained,	16
Number of crossings at which there are neither signals nor flagman, ...	332
Number of railroad crossings at grade (specifying each), .	8
Two on Fitchburg Railroad at Concord Junction and Fitchburg.	
One on Worcester & Nashua Railroad at Clinton.	
Two on New York & New England Railroad at Walpole and Medfield.	
One on Boston & Providence Railroad at Mansfield.	
One on Boston & Albany Railroad at South Framingham.	
One on Central Massachusetts Railroad at South Sudbury.	
Number of railroad crossings over other railroads (specifying each), ...	1
New York & New England Railroad at Boston.	
Number of railroad crossings under other railroads (specifying each), ...	1
Central Massachusetts Railroad at West Berlin.	

DESCRIPTION OF EQUIPMENT.

	Number Owned.	Number Leased.	Total Number.	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.	Number Equipped with Patent Coupler.
Locomotives:				Tons.	Tons.			
Passenger, . .	100	38	138	49	36.8	138	53	12
Freight, . . .	34	15	49	53½	41.8	36	31	–
Other, . . .	25	10	35	43¾	27.7	–	28	–
TOTAL,* . .	159	63	222	–	36.5	174	112	12
Passenger cars, .	249	126	375	29	23	375	–	375
Combination cars, .	83	16	99	–	–	99	–	99
Baggage, mail and express cars, . .	51	22	73	25	21	73	–	73
Parlor cars, . .	14	16	30	35	33	30	–	30
Dining cars, . .	2	–	2	38	38	2	–	2
Sleeping cars, . .	–	8	8	38	38	8	–	8
Directors' and pay cars, . . .	1	–	1	32	32	1	–	1
TOTAL,* . .	400	188	588	–	–	588	–	588

---

* The company owns only a fractional part of 16 passenger and baggags cars, and leases a fractional interest in 2 locomotives and 68 passenger and baggage cars, included in the above.

DESCRIPTION OF EQUIPMENT — *Concluded.*

	Number Owned.	Number Leased.	Total Number.	Maximum Weight.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.	Number Equipped with Patent Coupler.
				Tons.	Tons.			
Box freight cars (basis of 8 wheels),	1,140	361	1,501	12	9	182	–	950
Stock freight cars (basis of 8 wheels),	23	–	23	8	8	–	–	–
Coal freight cars (basis of 8 wheels),	682½	173½	856	12	5½	–	–	275
Flat freight cars (basis of 8 wheels),	661	132½	793½	15	7	6	–	125
TOTAL,	2,506½	667	3,173½	–	–	188	–	1,350
Cars in company's service:								
Gravel cars,	100	75	175	5	5	–	–	–
Derrick cars,	12	2	14	–	–	7	–	12
Caboose cars,	47	5	52	–	–	3	–	52
Other road cars,	34	10	44	–	–	32	–	55
TOTAL,	193	92	285	–	–	42	–	99

Number of cars in passenger equipment with 8 wheels fitted with brakes for all wheels,	585

Three 12-wheel cars, brakes on 8 wheels.

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL (IN MASSACHUSETTS).		FROM THEIR OWN MISCONDUCT OR CARELESSNESS (IN MASSACHUSETTS).		TOTAL IN MASSACHUSETTS.		TOTAL ON WHOLE ROAD OPERATED.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	–	1	3	2	3	3	3	3
Employees,	1	–	14	11	15	11	16	14
Others,	–	–	30	10	30	10	33	10

LIST OF ACCIDENTS TO PERSONS FOR THE YEAR ENDING JUNE 30, 1890.

July 4, 1889. — William Doyle was run over and killed, while lying intoxicated on a highway crossing near Southborough.

July 16. — Irving B. McDonald was struck by a train and seriously injured, while driving across the track at Bowenville.

July 27. — Benj. F. Shurtleff, a brakeman, was struck by an overhead bridge near Mattapoisett and instantly killed.

July 29. — Michael Riley was struck by a train and killed, while walking on the track under the Berkeley Street bridge in Boston.

August 8. — John Shields was killed at Canton Junction, in attempting to cross the track in advance of a train.

August 10. — Asa Coburn, a brakeman, was thrown from a train at Buzzard's Bay, on account of its sudden stoppage, and had one foot crushed.

August 14. — Wilbert McMullin was struck by a train, in attempting to cross the track ahead of it at Forest Hills, and fatally injured.

August 20. — An unknown man was struck and killed by a train, while walking on the track at South Braintree.

August 23. — Frank P. Mead fell from a gravel train, of which he was foreman, at Readville, and was run over and killed.

August 26. — Daniel Donahue, while intoxicated, attempted to cross the track in advance of a train at Forest Hills, and was run over and killed.

September 3. — Chas. W. Chipperfield was killed at North Easton, in the attempt to cross the track in advance of a train.

September 6. — Nelson Bishop, a sectionman, was run over and killed, while working on the track near Crane's.

September 12. — Mary E. Kiilz was killed at Boylston, while attempting to cross the track in advance of a train.

September 14. — Joseph Hudson, while attempting to cross the track at Hyde Park in advance of a train, was struck by it and instantly killed.

September 14. — Thos. Nelson, while walking on the track in an intoxicated condition at New Bedford, was struck by a train and seriously injured.

September 16. — Peter A. Roberts, a freight conductor, while attempting to cross the track in advance of a train at New Bedford, was struck by it and instantly killed.

September 19. — Wm. Searles, while lying intoxicated on the track near Marlborough Junction, was run over and killed.

September 24. — John H. McClellan, a freight conductor, had his right hand badly jammed in coupling at Dedham.

September 25. — Jere. J. Sullivan, a yard conductor, fell from the brakebeam of a car, upon which he was riding at South Boston, and was run over and killed.

September 28. — A man, supposed to be Frank Grant, was run over and killed, while walking or lying on the track near Leominster.

October 5. — Wm. A. Emerton, a freight brakeman, attempted to hand a lantern to another brakeman from the tender of an engine, slipped and fell, striking on his head, and was fatally injured, at South Framingham.

October 7. — John Gillen was struck by a train and injured, while walking on the track at Brockton.

October 10. — John Mayhew jumped from a train, after it had left the station at North Eastham, and was fatally injured.

October 19. — T. J. Killion was struck by a train, while crossing the track at Tremont Street, Roxbury, and fatally injured. The gates were closed at the time.

October 21. — Patrick Shevlin attempted to board a train, while intoxicated, after it had left the South Boston station, and was run over and fatally injured.

October 23. — Howard Garrick was struck by a train and fatally injured, while walking on the track between Harrison Square and Savin Hill.

October 31. — Wm. Henderson was struck by a train and instantly killed, while walking on the track at Canton Junction.

November 4. — Miss Agnes Hinsman received serious injuries to the head, by being struck by a train while crossing the track at Roslindale.

November 4. — John T. Coppinger, a freight brakeman, fell between a dump car and the tender of an engine at Fall River, and was run over and instantly killed.

November 4. — Jacob Baker was instantly killed at Brockton by a train. while walking on the track.

November 5. — Mrs. Elizabeth Swallow was struck by a train, while walking on the track at Readville, and instantly killed.

November 6. — George Shea, freight brakeman, had his shoulder jammed and one rib fractured, while coupling at Chelmsford.

November 7. — Miss Eva Acker was struck by a train, while crossing the track at Leominster, and seriously injured.

November 16. — The body of an unknown man, supposed to have been run over by the steamboat train, was found on the track near Dighton.

November 20. — The body of an unknown man was found on the track near East Foxborough. Supposed to have been run over by some train.

November 21. — Thos. Kelley jumped from a train before it reached the station at Bowenville, and had one foot crushed.

November 27. — Frank McCormick had one leg crushed, in the attempt to board a moving train at South Braintree.

December 9. — Kate Ryan was run over and killed, while walking on the track at Brockton.

December 10. — Peter Stontang was killed at Fall River, in the attempt to cross the track in advance of a train.

December 13. — Edwin Baker was run over and killed, while lying intoxicated on the track at Whittenton.

December 14. — Owen Dowd had an arm twisted and broken, in setting up a brake in the central division freight yard in Boston.

December 16. — Thos. Gannon, an engine cleaner, was run over and killed, while crossing the track at South Boston.

December 21. — Wilton E. Drake had a leg crushed, in the attempt to board a train before it had stopped at the Canton Junction station.

December 28. — John Collins, a sectionman, had his jaw broken, in the attempt to remove a bicycle car from the track at South Framingham in advance of a train.

December 30. — Chas. E. King, a switchman, was caught between two trains at Weir Junction and fatally injured.

January 2, 1890. — John S. Hilton was fatally injured, in coupling at South Framingham.

January 11. — Lewis C. Hastings, a train baggage-master, jumped from an engine at Medfield, while the train was in motion, and was run over and fatally injured.

January 22. — Lawrence Thor attempted to cross the track at Ruggles Street crossing at Roxbury, while the gates were closed, and was struck by a train and instantly killed.

January 25. — John Finn, while intoxicated, and sitting on the track between Bridgewater and Elmwood, was struck by a train and fatally injured.

January 30. — James Kellet, a brakeman, was fatally injured, while coupling in the shop yard at Roxbury.

February 1. — Daniel O'Brine, while walking in an intoxicated condition on the track at Campello, was struck by a train and seriously injured.

February 3. — John J. Crowley, a car inspector, was run over and had one leg crushed, in the central division yard at Boston.

February 25. — W. S. Pratt was quite seriously injured, in a collision near Chickering station.

March 8. — P. J. McArdle, a freight brakeman, fell from a train to the ice below, while crossing the viaduct near Canton Junction, and was fatally injured.

March 19. — Owen Dowd, a brakeman, fell from a train at South Braintree and was seriously injured.

March 20. — John Leary, a sectionman, was struck by a train while he was working on the track at Whitman, and was seriously injured.

March 22. — Chas. Blodgett, a fireman, had his left leg crushed, in a collision between two freight trains near Concord Junction.

March 23. — John McManus, a brakeman, walked off the end of a car at Pratt's Junction, and had his spine injured.

April 8. — Herbert B. March attempted to board a train while it was leaving the Kneeland Street station, Boston, and was instantly killed.

April 8. — Chas. Haggerty, a freight brakeman, was thrown from the top of a freight car at Fall River, and run over and seriously injured.

May 8. — H. Norton, a freight brakeman, was struck by an overhead bridge near Mansfield, and instantly killed.

May 13. — Oscar Duquette, while intoxicated, jumped from a moving train at Dodgeville, and had one leg crushed.

May 15. — Arthur McGowan was struck by a train and killed, while crossing the track at the Tremont Street crossing, Roxbury. The gates were closed at the time.

May 17. — Frank DeCosta attempted to cross the track in advance of a train at Dean Street station, Taunton, and was instantly killed.

May 21. — Wilford Cote was struck by a switch, while clinging to the side of a moving freight car at Clinton, and was fatally injured.

May 24. — Jas. Crabtree was struck by a train, while walking on the track at Readville, and had his right leg broken.

May 28. — Andrew Littig jumped from an express train at Roxbury, in front of another train, and was struck by it and fatally injured.

June 4. — John Havey, gateman at the Tremont Street crossing, was struck by a train, and instantly killed.

June 6. — John Brown, while walking through the yard at South Boston, was struck by a train and fatally injured.

June 26. — Phillip DeBarge, a laborer, was struck by a train, while crossing the track at Canton Junction, and instantly killed.

June 27. — Mary J. Harrington was instantly killed, and John P. Sullivan seriously injured, while walking on the track at Fall River.

June 28. — Chas. G. Sumner, while intoxicated, attempted to leave a moving train at South Boston, and was run over and fatally injured.

Name and Residence of Officers.

Charles F. Choate, *President*, Southborough, Mass. Frederick L. Ames, *Vice-President*, North Easton, Mass. James R. Kendrick, *General Manager*, Boston, Mass. Sidney C. Putnam, *General Freight Agent*, Hyde Park, Mass. George L. Connor, *General Passenger Agent*, Boston, Mass. John M. Washburn, *Treasurer*, Boston, Mass. John S. Brayton, *Clerk of Corporation*, Fall River, Mass.

Name and Residence of Directors last elected.

Charles F. Choate, Southborough, Mass. Frederick L. Ames, North Easton, Mass. Thomas J. Borden, Fall River, Mass. John S. Brayton, Fall River, Mass. Samuel C. Cobb, Boston, Mass. Thomas Dunn, Newport, R. I. George A. Gardner, Boston, Mass. James R. Kendrick, Boston, Mass. Charles L. Lovering, Taunton, Mass. William J. Rotch, New Bedford, Mass. John J. Russell, Plymouth, Mass. Nathaniel Thayer, Boston, Mass. Royal W. Turner, Randolph, Mass.

PROPER ADDRESS OF THE COMPANY.

OLD COLONY RAILROAD COMPANY,
BOX 379, BOSTON, MASS.

CHARLES F. CHOATE,
FRED'K L. AMES,
THOS. DUNN,
ROYAL W. TURNER,
THOS. J. BORDEN,
JNO. J. RUSSELL,
CHARLES L. LOVERING,
J. R. KENDRICK,
Directors.

JOHN M. WASHBURN,
Treasurer.

J. R. KENDRICK,
General Manager.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Aug. 29, 1890. Then personally appeared Charles F. Choate, Fred'k L. Ames, Thos. Dunn, Royal W. Turner, Thomas J. Borden, John J. Russell, Charles L. Lovering, J. R. Kendrick and John M. Washburn, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

AUSTIN W. ADAMS,
Justice of the Peace.

REPORT

OF THE

PITTSFIELD & NORTH ADAMS RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Boston & Albany Railroad Company.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,	$22,500 00
TOTAL INCOME,	22,500 00
Dividends declared (5 per cent.),	22,500 00

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$438,752 57
Cost of equipment,	11,247 43
TOTAL,	$450,000 00

CR.

Capital stock,	$450,000 00
TOTAL,	450,000 00

CAPITAL STOCK.

Capital stock authorized by charter,	$500,000 00	
Capital stock authorized by votes of company,	450,000 00	
Capital stock issued (number of shares, 4,500); amount paid in,		$450,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		450,000 00
Total number of stockholders,	104	
Number of stockholders in Massachusetts,	98	
Amount of stock held in Massachusetts,	$445,900 00	

DESCRIPTION OF ROAD OWNED.

Main line of road from Pittsfield to North Adams,	18.55 miles.
Main line of road in Massachusetts,	18.55 "
Total road belonging to this company,	18.55 "
Sidings and other tracks not before enumerated,	6 "
Same in Massachusetts,	6 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	24.55 "
Same in Massachusetts,	24.55 "
Total length of tracks laid with steel rails,	14.78 "

[Weights per yard, 63 pounds.]

GENERAL INFORMATION.	
Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade,	17
Number of crossings of highways over railroad,	2
Number of highway bridges 18 feet above track,	2
Height of lowest bridge above the rail,	18 feet.
Number of crossings at which gates or flagman are maintained,	4
Number of crossings at which there are neither signals nor flagman,	13
Number of railroad crossings under other railroads (specifying each),	1
Troy & Greenfield Railroad.	

NAME AND RESIDENCE OF OFFICERS.

Jarvis N. Dunham, *President*, Pittsfield, Mass. Charles E. Stevens, *Treasurer*, Hingham, Mass. James A. Rumrill, *Clerk of Corporation*, Springfield, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Francis H. Appleton, Peabody, Mass. Jarvis N. Dunham, Pittsfield, Mass. Edward Jackson, Boston, Mass. James A. Rumrill, Springfield, Mass. Charles E. Stevens, Hingham, Mass.

PROPER ADDRESS OF THE COMPANY.

PITTSFIELD & NORTH ADAMS RAILROAD COMPANY,

BOSTON, MASS.

J. N. DUNHAM,
J. A. RUMRILL,
C. E. STEVENS,
Directors.

C. E. STEVENS,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. BOSTON, Aug. 8, 1890. Then personally appeared J. N. Dunham, J. A. Rumrill and C. E. Stevens, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

FRANK H. RATCLIFFE,
Justice of the Peace.

REPORT

OF THE

PROVIDENCE & WORCESTER RAILROAD COMPANY,

For the Year ending June 30, 1890.

[This road is leased to and operated by the New York, Providence & Boston Railroad Company.]

Income Account.

General Exhibit for the Year.

Income from lease of road,			$422,500 00
Total Income,			422,500 00
Salaries and maintenance of organization,		$11,135 94	
Interest on funded debt,		75,000 00	
Total,			86,135 94
Net Income,			336,364 06
Dividends declared (10 per cent.),			337,500 00
Deficit for year ending June 30, 1890,			1,135 94
Balance Profit and Loss Account June 30, 1889 (surplus),			18,966 65
Total Profit and Loss Account (surplus),			17,830 71
Add increase in valuation of equipment, as per appraisal under lease,	$253,887 40		
Deduct balance of miscellaneous accounts charged and credited Profit and Loss during the year,	4,395 86		
		$249,491 54	
Balance Profit and Loss Account June 30, 1890 (surplus),			267,322 25

General Balance Sheet June 30, 1890.

Dr.

Cost of road,	$3,570,000 00	
Cost of equipment,	828,887 40	
Total Permanent Investments,		$4,398,887 40
Cash,	$107,686 88	
Due from solvent companies and individuals,	510,747 97	
Total Cash and Current Assets,		618,434 85
Total,		$5,017,322 25

Cr.

Capital stock,	$3,500,000 00
Funded debt,	1,250,000 00
Profit and Loss balance,	267,322 25
Total,	$5,017,322 25

CAPITAL STOCK.

Capital stock authorized by charter,	$3,500,000 00	
Capital stock authorized by votes of company,	3,500,000 00	
Capital stock issued (number of shares, 35,000); amount paid in,		$3,500,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		3,500,000 00
Total number of stockholders,	844	
Number of stockholders in Massachusetts,	462	
Amount of stock held in Massachusetts,	$2,005,100 00	

DEBT.

Funded debt, as follows:		
First mortgage bonds due October 1, 1897, rate of interest, 6 per cent.,		1,250,000 00
Interest paid on same during the year,	$75,000 00	

DESCRIPTION OF ROAD OWNED.

Main line of road from Providence, R. I., to Worcester, Mass.,	43.41 miles.
Main line of road in Massachusetts,	25.51 "
Main line of road in Rhode Island,	17.90 "
Double track on main line,	42.38 "
Same in Massachusetts,	24.48 "
Branches owned by company, viz.:	
East Providence Branch Railroad (single track),	7 "
Total length of branches owned by company,	7 "
Total length of branches owned by company in Massachusetts,	.50 mile.
Total length of branches owned by company in Rhode Island,	6.50 miles.
Total road belonging to this company,	50.41 "
Sidings and other tracks not before enumerated,	49.42 "
Same in Massachusetts,	19.83 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	142.21 "
Same in Massachusetts,	70.32 "
Total length of tracks laid with steel rails,	110.13 "
[Weights per yard, 60, 72 and 78 pounds.]	

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	28
Number of crossings of highways over railroad,	5
Number of crossings of highways under railroad,	8
Number of highway bridges 18 feet above track,	1
Number of highway bridges less than 18 feet above track,	4
Height of lowest bridge above the rail,	14 ft. 10 in.
Number of crossings at which gates or flagman are maintained,	15
Number of crossings at which electric signals are maintained,	24
Number of railroad crossings at grade (specifying each),	1
West end of Union passenger station, Worcester.	
Number of railroad crossings under other railroads (specifying each),	1
New York & New England Railroad Company, near Millville.	

NAME AND RESIDENCE OF OFFICERS.

Moses B. I. Goddard, *President*, Warwick, R. I. William A. Leete, *Treasurer and Clerk of Corporation*, Pawtucket, R. I.

Name and Residence of Directors last elected.

Moses B. I. Goddard, Warwick, R. I. Joseph E. Davis, Worcester, Mass. Oscar J. Rathbun, Woonsocket, R. I. Jonas G. Clark, Worcester, Mass. Benj. F. Thurston, Providence, R. I. Charles E. Whitin, Whitinsville, Mass. George S. Barton, Worcester, Mass.

Proper Address of the Company.

PROVIDENCE & WORCESTER RAILROAD COMPANY,
Providence, Rhode Island.

MOSES B. I. GODDARD,
OSCAR J. RATHBUN,
JONAS G. CLARK,
GEO. S. BARTON,
Directors.
WM. A. LEETE,
Treasurer.

State of Rhode Island and Providence Plantations.

Providence, ss. Providence, Sept. 10, 1890. Then personally appeared Moses B. I. Goddard, president, Oscar J. Rathbun, Jonas G. Clark and George S. Barton, directors of the Providence & Worcester Railroad Company, and William A. Leete, treasurer of said company, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

EDWIN METCALF,
Justice of the Peace.

REPORT

OF THE

LESSEES OF THE

PROVIDENCE & WORCESTER RAILROAD (WORCESTER DIVISION OF N. Y., P. & B. R. R.),

FOR THE YEAR ENDING JUNE 30, 1890.

INCOME ACCOUNT.

General Exhibit for the Year.

Gross earnings from operation,	$1,523,514 06	
Less operating expenses,	957,340 97	
Income from operation,		$566,173 09
Miscellaneous income, less expenses:		
East Providence pier,		45,917 57
TOTAL INCOME,		$612,090 66
Deductions from income:		
Taxes,	$80,905 21	
Rentals:		
Providence & Worcester Railroad,	422,500 00	
Total deductions from income,		503,405 21
NET INCOME,		108,685 45

EARNINGS FROM OPERATION.

ITEMS.	Total Receipts.	Deductions Account of Repayments, etc.	Actual Earnings.
Passenger:			
Passenger revenue,	$599,972 40		
Less repayments:			
Excess fares refunded,		$6,872 28	
Total deductions,		$6,872 28	
TOTAL PASSENGER REVENUE,			$593,100 12
Mail,	$4,975 09		
Express,	17,955 44		22,930 53
TOTAL PASSENGER EARNINGS,			$616,030 65
Freight:			
Freight revenue,	$895,276 44		
Less repayments:			
Overcharge to shippers,		$3,178 22	
Total deductions,		$3,178 22	
TOTAL FREIGHT EARNINGS,			892,098 22
TOTAL PASSENGER AND FREIGHT EARNINGS,			$1,508,128 87
Other earnings from operation:			
Rentals not otherwise provided for,			15,385 19
TOTAL GROSS EARNINGS FROM OPERATION,			$1,523,514 06

Operating Expenses.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures:			
Repairs of roadway,	$60,076 08	$34,860 84	$94,936 92
Renewals of rails,	20,198 03	11,641 46	31,839 49
Renewals of ties,	24,353 80	14,131 97	33,485 77
Repairs of bridges and culverts,	16,753 27	9,720 93	26,474 20
Repairs of fences, road crossings, signs and cattle-guards,	8,726 77	5,063 96	13,790 73
Repairs of buildings,	18,525 26	10,749 81	29,275 07
Other expenses,	1,194 73	693 28	1,888 01
Total,	$149,827 94	$86,862 25	$236,690 19
Maintenance of equipment:			
Repairs and renewals of locomotives,	$31,192 49	$18,100 32	$49,292 81
Repairs and renewals of passenger cars,	27,982 85	–	27,982 85
Repairs and renewals of freight cars,	–	48,200 14	48,200 14
Shop machinery, tools, etc.,	3,552 50	2,061 44	5,613 94
Other expenses,	2,095 81	1,216 15	3,311 96
Total,	$64,823 65	$69,578 05	$134,401 70
Conducting transportation:			
Wages of enginemen, firemen and roundhouse-men,	$54,392 30	$31,562 66	$85,954 96
Fuel for locomotives,	55,520 60	32,217 39	87,737 99
All other supplies for locomotives,	5,560 81	3,226 81	8,787 62
Wages of other trainmen,	52,470 12	30,447 26	82,917 38
All other train supplies,	1,985 80	1,152 31	3,138 11
Wages of switchmen, flagmen and watchmen,	23,479 22	13,624 47	37,103 69
Expense of telegraph, including train despatchers and operators,	5,454 76	3,165 28	8,620 04
Wages of station agents, clerks and laborers,	88,289 32	51,232 36	139,521 68
Station supplies,	9,618 65	5,581 49	15,200 14
Car mileage balances,	13,246 42	7,686 60	20,933 02
Loss and damage,	–	1,034 89	1,034 89
Injuries to persons,	3,401 95	1,974 08	5,376 03
Other expenses,	8,236 18	4,779 27	13,015 45
Total,	$321,656 13	$187,684 87	$509,341 00
General expenses:			
Salaries of officers,	$12,553 57	$7,284 56	$19,838 13
Salaries of clerks,	10,389 30	6,028 68	16,417 98
General office expenses and supplies,	716 23	415 67	1,131 90
Agencies, including salaries and rent,	398 44	231 20	629 64
Advertising,	2,208 92	1,281 79	3,490 71
Insurance,	1,751 39	1,016 29	2,767 68
Rentals not otherwise provided for,	6,600 06	3,829 87	10,429 93
Legal expenses,	3,169 70	1,839 30	5,009 00
Stationery and printing,	7,447 42	4,321 57	11,768 99
Other general expenses,	3,432 38	1,991 74	5,424 12
Total,	$48,667 41	$28,240 67	$76,908 08
Recapitulation of expenses:			
Maintenance of way and structures,	$149,827 94	$86,862 25	$236,690 19
Maintenance of equipment,	64,823 65	69,578 05	134,401 70
Conducting transportation,	321,656 13	187,684 87	509,341 00
General expenses,	48,667 41	28,240 67	76,908 08
Grand Total,	$584,975 13	$372,365 84	$957,340 97
Division of expenses on basis of *total engine mileage*,	377,575 28	579,765 69	957,340 97
Percentage of operating expenses to earnings,	–	–	62.83

Note. — The foregoing divisions as between passenger and freight traffic on Interstate Commerce Commission's basis are *absolutely incorrect*, and utterly worthless for any purpose. If the divisions were made on the basis of *total* engine mileage, giving the freight all the mileage, except that of passenger engines, the results would be much more nearly correct.

---

* The items in these columns which are not directly chargeable to either passenger or freight business are to be apportioned between the two on the basis of train mileage as prescribed by the Interstate Commerce Commission. The result, therefore, is not accurate, but only approximate, and this fact must be borne in mind in drawing conclusions therefrom.

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Bridging,	$47,649 87	
Lands, land damages and fences,	60,340 16	
Engine houses, car sheds and turn-tables,	1,208 56	
New sidings and extensions of old,	10,169 79	
Extension of freight yards at Providence, Pawtucket & Worcester,	14,389 07	
Cove tracks at Providence,	2,220 10	
Four tracks — Providence to Pawtucket — one half,	13,888 00	
Miscellaneous items,	5,410 60	
TOTAL FOR CONSTRUCTION,		$155,276 15
Locomotives (number, 1),	$8,707 43	
Passenger, mail, and baggage cars (number, 4),	14,994 00	
TOTAL FOR EQUIPMENT,		23,701 43
TOTAL CHARGES TO PROPERTY ACCOUNTS,		178,977 58

PASSENGER, FREIGHT AND TRAIN MILEAGE.

Passenger traffic:	
Number of passengers carried earning revenue,	3,211,369
Number of passengers carried one mile,	26,172,730
Average distance carried,	8 15
Total passenger revenue,	$593,100 12
Average amount received from each passenger,	18.47 cents.
Average receipts per passenger per mile,	2.26 "
Estimated cost of carrying each passenger one mile (basis of *total* engine mileage),	1.44 "
Passenger earnings per mile of road,	$11,767 86
Passenger earnings per train mile,	$1 35
Freight traffic:	
Number of tons carried of freight earning revenue,	1,215,909
Number of tons carried one mile,	35,711,439
Average distance haul of one ton,	29.37
Total freight revenue,	$892,098 22
Average amount received for each ton of freight,	73.37 cents.
Average receipts per ton per mile,	2.49 "
Estimated cost of carrying one ton one mile (basis of *total* engine mileage,	1.62 "
Freight earnings per mile of road,	$17,700 36
Passenger and freight:	
Passenger and freight earnings,	$1,485,198 34
Passenger and freight earnings per mile of road,	29,468 22
Expense per mile of road,	18,994 86
Total earnings per mile of road, including mails, express, etc.,	29,923 19
Train mileage:	
Miles run by passenger trains,	434,906
Miles run by freight trains,	252,259
Total mileage trains earning revenue,	687,165
Miles run by switching trains,	378,363
Miles run by construction and other trains,	37,202
Total train mileage,	1,102,730
Average number of persons employed,	1,200
Rates of fare:	
Average rate of fare per mile received for local tickets,	2.35 cents.
Average rate of fare per mile received for commutation tickets,	.78 cent.

Rates of fare — *Concluded.*	
Average rate of fare per mile received for mileage tickets,	2 cents.
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies, ...	2.01 "
Rates of freight:	
Average rate per ton per mile received from freight waybilled local, ...	2.69 "
Average rate per ton per mile received from freight waybilled jointly with other railroads and transportation companies, ...	2.05 "

DESCRIPTION OF ROAD OWNED.

Total miles of road operated by this company, ...	50.4 miles.
Total miles of road operated by this company in Massachusetts, ...	26 "
Number of stations in Massachusetts on all roads operated by this company, ...	12
Number of telegraph offices in same, ...	9
Number of stations on all roads owned by this company, .	25
Same in Massachusetts, ...	12

GENERAL INFORMATION.

New Bridges of over Ten Feet Span built within the Year on Roads operated in Massachusetts (including Those replacing Old Structures and Those built where None before existed).

Location.	To Replace.	Description.	Length of Spans and Number of Tracks.	When and by Whom Built.
St. Paul Street, Waterford.	Wooden.	Each track carried by two through plate girders.	33 ft. clear, 3 tracks.	Mason work, company's masons. Iron work, Pencoyd Construction Company.
Uxbridge River.	Wooden.	Double track. Two-truss through. Iron pin connected.	120 ft. 6 in., 2 tracks.	Masonry, company's masons. Iron work, Pencoyd Construction Company.
Farnum's, highway.	Wooden.	Renewed in wood.		
Saunders' River.	Wooden.	Double track. Riveted lattice.	105 ft., 2 tracks.	Masonry, Samuel Fowler. Iron work, Pencoyd Construction Company.
Millbury River.	Wooden.	Double track. Through pin connected.	120 ft. 6 in., 2 tracks.	Masonry, Samuel Fowler. Iron work, Pencoyd Construction Company.

Bridges on Roads Operated in Massachusetts.

Bridges extensively repaired during the year (specify how):	
Bridges Nos. 51 and 52, north of Blackstone, strengthened preparatory to renewal with iron spans.	
Bridge No. 63. Highway over track. Plummers, renewed in wood.	
Total amount expended for repairs and renewals of bridges,	$14,124 07

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade,	28
Number of crossings of highways over railroad,	5
Number of crossings of highways under railroad,	8
Number of highway bridges 18 feet above track,	1
Number of highway bridges less than 18 feet above track,	4
Height of lowest bridge above the rail,	14 ft. 10 in.
Number of crossings at which gates or flagman are maintained,	15
Number of crossings at which electric signals are maintained,	24
Number of railroad crossings at grade (specifying each),	1
West end Union depot, Worcester, Mass.	
Number of railroad crossings under other railroads (specifying each),	1
Under New York & New England Railroad, near Millville, Mass.	

Description of Equipment.

(Equipment leased from the Providence & Worcester Railroad Company.)

	Number Leased.	Total Number.	Maximum Weight, with Tender.	Average Weight, with Tender.	Number Equipped with Train Brake.	Number Equipped with Patent Coupler
Locomotives:			Pounds.	Pounds.		
Passenger,	12	12	181.960	134.213	–	–
Freight,	12	12	180.320	154.620	–	–
Other,	13	13	149.936	109.800	–	–
Total,	37	37	–	–	–	–
Passenger cars,	50	50	44.500	42.000	50	50
Combination cars,	10	10	48.790	45.000	10	10
Baggage, mail and express cars,	7	7	40.000	40.000	7	7
Total,	67	67	–	–	67	67
Freight box cars,	298	298	–	–	–	–
Freight coal cars,	109	109	–	–	–	–
Freight flat cars,	98	98	–	–	–	–
Other cars,	1,181	1,181	–	–	–	–
Total,	1,686	1,686	–	–	–	–
Cars in company's service:						
Derrick cars,	2	2	–	–	–	–
Caboose cars,	11	11	–	–	–	–
Other road cars,	3	3	–	–	–	–
Total,	16	16	–	–	–	–

LIST OF ACCIDENTS.

	From Causes beyond their own Control (in Massachusetts).		From their own Misconduct or Carelessness (in Massachusetts).		Total in Massachusetts.		Total on Whole Road operated.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, .	-	-	2	2	2	2	2	2
Employees, .	5	3	-	-	5	3	5	3
Others, . .	-	-	6	3	6	3	6	3

LIST OF ACCIDENTS IN MASSACHUSETTS, JULY 1, 1889, TO JUNE 30, 1890.

July 9, 1889. — Thomas Finnegan, switchman Union station at Worcester, Mass., while attempting to get on baggage car being switched into depot, lost his hold, fell, and was run over, — fatally injured.

July 16. — Amede Vonton, about twelve years old, walking on track north of Fisher's bridge, Fisherville, was struck by passenger train, and instantly killed.

July 17. — Michael S. Hoar, brakeman, in switching freight cars in Worcester freight yard, had his right foot and leg jammed between the cars, — not seriously.

July 22. — Bernard McLaughlin, brakeman, while switching freight train at Cambridge Street, Worcester, fell from top of car, and was run over and instantly killed.

August 3. —William Devrue, a young boy, while on the tracks in South Worcester freight yard, was struck by switching engine, and his head and right leg were cut, — not fatally injured.

September 30. — William Neville, yard conductor, while attempting to throw switch at Worcester, fell in front of moving cars and was run over and killed.

October 30. — Hugh Dougan, brakeman, while switching cars in Worcester freight yard, fell in front of a dump car, and his right foot was run over and had to be amputated.

November 5. — William Leonard, a boy about eight years old, found on track south of Millville station, with neck broken; probably jumped or fell from passsenger train.

November 19. — John Cunningham, about forty-three years old, while walking on the track south of Millville station, was struck by passenger train, thrown down the bank and instantly killed.

December 14. — Patrick Eagan jumped from passenger train at Washington Street crossing, Worcester, cutting one knee, dislocating a finger, and cutting his face.

Jan. 9, 1890. — Thomas O'Brien, brakeman, while coupling freight cars at Whitins, lost the first finger of his left hand.

January 21. — Thomas Turner, brakeman, while coupling freight cars at Uxbridge, fell, and was run over by the cars and fatally injured.

January 23. — Peter Auger, about four years old, standing near track on curve north of Wilkinsonville station, was struck on the head by engine of passenger train, and instantly killed.

February 4. — William Boyce, about thirty-two years old, attempted to cross track in front of passenger train at Whitins station, and was knocked down, and his head cut and back bruised, — not fatal injuries.

March 13. — Unknown man, about forty years of age, found on track just north of the grade crossing at Millville station, early in the morning. No trace of what train he was struck by, — body badly mangled.

March 13. — C. J. Crundstrom, about thirty years old, walking on track north of Quinsigamond bridge, Worcester, struck by passenger train and fatally injured.

April 4. — Charles H. Oaks, twenty-two years old, jumped from a passenger train at South Worcester and broke his right thigh.

April 12. — Patrick Daley, thirty-five years old, walking on track north of Blackstone station, struck by passenger train, and head cut.

April 22. — Michael Brennan, sectionman, struck by passenger train on curve north of Northbridge station, — fatally injured.

April 23. — John Doyle, about twenty years old, stepped in front of passenger train, between Plymouth and Washington streets crossing, Worcester, and was struck and fatally injured.

June 28. — Amidee Demers, about fourteen years of age, jumped from express passenger train at Millbury passenger station, was run over and instantly killed.

A. R. LONGLEY,
Treasurer.
J. B. GARDINER,
Superintendent.

STATE OF RHODE ISLAND.

PROVIDENCE, ss. PROVIDENCE, R. I., Sept. 25, 1890. Then personally appeared A. R. Longley, treasurer, and J. B. Gardiner, superintendent, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

GILMAN E. JOPP,
Commissioner for the Commonwealth of Massachusetts.

REPORT

OF THE

PROVIDENCE, WEBSTER & SPRINGFIELD RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Boston & Albany Railroad Company.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,		$4,977 53
TOTAL INCOME,		4,977 53
Salaries and maintenance of organization,	$1,330 41	
Interest and discount on interest-bearing current liabilities,	4,745 05	
Taxes,	588 21	
TOTAL,		6,663 67
Deficit for year ending June 30, 1890,		1,686 14
Balance Profit and Loss Account June 30, 1889 (surplus),		4,902 64
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		3,216 50

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Grading and masonry,		$98 84
Land damages,		600 00
Expenses during construction,		100 00
TOTAL FOR CONSTRUCTION,		$798 84
Property sold (or reduced in valuation on the books) and credited property accounts during the year:		
Wood and ties sold,	$227 65	
Total credits to property accounts,		227 65
NET ADDITION TO PROPERTY ACCOUNT FOR THE YEAR,		$571 19

General Balance Sheet June 30, 1890.

DR.

Cost of road,		$242,098 61
Net traffic balances due from other companies,	$1,529 34	
Other cash assets,	60 00	
TOTAL CASH AND CURRENT ASSETS,		1,589 34
TOTAL,		$243,687 95

Cr.

Capital stock,	$160,000 00
Audited vouchers and accounts,	80,471 45
Profit and Loss balance,	3,216 50
TOTAL,	$243,687 95

CAPITAL STOCK.

Capital stock authorized by charter,	$160,000 00	
Capital stock authorized by votes of company,	160,000 00	
Capital stock issued (number of shares, 1,600); amount paid in,		$160,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		160,000 00
Total number of stockholders,	8	
Number of stockholders in Massachusetts,	8	
Amount of stock held in Massachusetts,	$160,000 00	

DESCRIPTION OF ROAD OWNED.

Main line of road from Webster to Boston & Albany Railroad in Auburn, Mass.,	11.02 miles.
Main line of road in Massachusetts,	11.02 "
Branches owned by company, viz.:	
Webster Mills to East Webster (single track),	1.17 "
Total length of branches owned by company,	1.17 "
Total length of branches owned by company in Massachusetts,	1.17 "
Total road belonging to this company,	12.19 "
Sidings and other tracks not before enumerated,	1.74 "
Same in Massachusetts,	1.74 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	13.93 "
Same in Massachusetts,	13.93 "
Total length of tracks laid with steel rails,	13.93 "
[Weight per yard, 56 pounds.]	

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	12
Number of crossings of highways over railroad,	2
Number of crossings of highways under railroad,	4
Number of highway bridges 18 feet above track,	2
Height of lowest bridge above the rail,	18 ft.
Number of crossings at which there are neither signals nor flagman,	12
Number of railroad crossings over other railroads (specifying each),	1
Over Norwich & Worcester Railroad, near its North Webster Station.	

NAME AND RESIDENCE OF OFFICERS.

H. N. Slater, *President and Treasurer*, Webster, Mass. Amos Bartlett, *Vice-President*, Webster, Mass. E. P. Morton, *Clerk of Corporation*, Webster, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

H. N. Slater, Webster, Mass. Amos Bartlett, Webster, Mass. E. P. Morton, Webster, Mass. Samuel Slater, Webster, Mass. Chas. Gerber, Webster, Mass. Edwin Bartlett, North Oxford, Mass. N. E. Taft, North Oxford, Mass.

PROPER ADDRESS OF THE COMPANY.

PROVIDENCE, WEBSTER & SPRINGFIELD RAILROAD COMPANY,
WEBSTER, MASS.

AMOS BARTLETT,
CHAS. GERBER,
SAMUEL SLATER,
Directors.

H. N. SLATER,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

WORCESTER, SS. WEBSTER, Aug. 7, 1890. Then personally appeared Amos Bartlett, Charles Gerber, Samuel Slater and H. N. Slater, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

JOHN F. HINDS,
Notary Public.

REPORT

OF THE

RHODE ISLAND & MASSACHUSETTS RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the New York & New England Railroad Company.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,	$10,000 00
TOTAL INCOME,	10,000 00
Expense making plans of road,	79 00
NET INCOME,	9,921 00
Dividends declared (10 per cent.),	10,000 00
Deficit for year ending June 30, 1890,	79 00
Balance Profit and Loss Account June 30, 1889 (surplus),	15,018 63
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),	14,939 63

General Balance Sheet June 30, 1890.

DR.		
Cost of road,		$112,321 13
Cash,	$118 50	
Due from solvent companies and individuals,	2,500 00	
TOTAL CASH AND CURRENT ASSETS,		2,618 50
TOTAL,		$114,939 63
CR.		
Capital stock,		$100,000 00
Profit and Loss balance,		14,939 63
TOTAL,		$114,939 63

CAPITAL STOCK.

Capital stock authorized by charter,	$100,000 00	
Capital stock authorized by votes of company,	100,000 00	
Capital stock issued (number of shares, 1,000); amount paid in,		$100,000 00
TOTAL AMOUNT PAID IN, AS PER BOOKS OF THE COMPANY,		100,000 00
Total number of stockholders,	7	
Number of stockholders in Massachusetts,	7	
Amount of stock held in Massachusetts,	$100,000 00	

Description of Road Owned.	
Main line of road from Franklin to State Line of Rhode Island,	6.62 miles.
Main line of road in Massachusetts,	6.62 "
Total road belonging to this company,	6.62 "
Sidings and other tracks not before enumerated,	1.006 "
Same in Massachusetts,	1.006 "
Total Length of Track owned, computed as Single Track,	7.626 "
Same in Massachusetts,	7.626 "
Total length of tracks laid with steel rails,	7.626 "
General Information.	
Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade,	5
Number of crossings of highways under railroad,	1
Number of highway bridges 18 feet above track,	1

Name and Residence of Officers.

James P. Ray, *President*, Franklin, Mass. Edgar K. Ray, *Vice-President*, Franklin, Mass. Joseph G. Ray, *Treasurer*, Franklin, Mass. George W. Wiggin, *Clerk of Corporation*, Franklin, Mass.

Name and Residence of Directors last elected.

James P. Ray, Franklin, Mass. Joseph G. Ray, Franklin, Mass. Edgar K. Ray, Franklin, Mass. James F. Ray, Franklin, Mass. Moses Farnum, Franklin, Mass. George W. Wiggin, Franklin, Mass.

Proper Address of the Company.

RHODE ISLAND & MASSACHUSETTS RAILROAD COMPANY,
Franklin, Mass.

JAMES P. RAY,
GEORGE W. WIGGIN,
JOSEPH G. RAY,
MOSES FARNUM,
EDGAR K. RAY,
JAMES F. RAY,
Directors.

JOSEPH G. RAY,
Treasurer.

Commonwealth of Massachusetts.

Norfolk, ss. Franklin, July 15, 1890. Then personally appeared James P. Ray, George W. Wiggin, Joseph G. Ray, Moses Farnum, Edgar K. Ray and James F. Ray, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

WILLIAM A. WYCKOFF,
Justice of the Peace.

REPORT

OF THE

STOCKBRIDGE & PITTSFIELD RAILROAD COMPANY,

For the Year ending June 30, 1890.

[This road is leased to and operated by the Housatonic Railroad Company of Connecticut.]

Income Account.

General Exhibit for the Year.

Income from lease of road,	$31,409 00	
Interest on stock owned,	238 00	
Miscellaneous income, less expense,	87 50	
TOTAL INCOME,		$31,734 50
Salaries and maintenance of organization,	$313 15	
Taxes,	7,265 35	
TOTAL,		7,578 50
NET INCOME,		24,156 00
Dividends declared (5.37 per cent.),		24,143 65
Surplus for year ending June 30, 1890,		12 35
Balance Profit and Loss Account June 30, 1889 (surplus),		2,550 53
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		2,562 88

General Balance Sheet June 30, 1890.

Dr.

Cost of road,	$448,700 00	
Stock of Stockbridge & Pittsfield Railroad Co. (34 shares),	2,550 00	
TOTAL PERMANENT INVESTMENTS,		$451,250 00
Cash,		508 13
TOTAL,		$451,758 13

Cr.

Capital stock,	$448,700 00
Dividends not called for,	495 25
Profit and Loss balance,	2,562 88
TOTAL,	$451,758 13

Capital Stock.

Capital stock authorized by charter,	$550,000 00	
Capital stock authorized by votes of company,	448,700 00	
Capital stock issued (number of shares, 4,487); amount paid in,		$448,700 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		448,700 00

Total number of stockholders,	200	
Number of stockholders in Massachusetts,	149	
Amount of stock held in Massachusetts,	$302,100 00	
Description of Road Owned.		
Main line of road from Van Deusenville to Pittsfield,		22 miles.
Main line of road in Massachusetts,		22 "

Name and Residence of Officers.

Daniel R. Williams, *President*, Stockbridge, Mass. Daniel A. Kimball, *Treasurer and Clerk of Corporation*, Stockbridge, Mass.

Name and Residence of Directors last elected.

D. R. Williams, Stockbridge, Mass. Henry W. Taft, Pittsfield, Mass. F. Hoffman, Stockbridge, Mass. J. B. Hull, Stockbridge, Mass. William C. Spaulding, West Stockbridge, Mass. William J. Bartlett, Lee, Mass. Daniel A. Kimball, Stockbridge, Mass.

Proper Address of the Company.

THE STOCKBRIDGE & PITTSFIELD RAILROAD COMPANY,
Stockbridge, Mass.

D. R. WILLIAMS,
D. A. KIMBALL,
JOHN B. HULL,
HENRY W. TAFT,
Directors.
D. A. KIMBALL,
Treasurer.

Commonwealth of Massachusetts.

Berkshire, ss., July 5, 1890. Then personally appeared D. R. Williams, D. A. Kimball and John B. Hull, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

H. J. DUNHAM,
Justice of the Peace.

Berkshire, ss., July 7, 1890. Then personally appeared Henry W. Taft, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

HENRY M. PITT,
Justice of the Peace.

REPORT

OF THE

STONY BROOK RAILROAD CORPORATION,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Boston & Maine Railroad.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,	$15,000 00	
Miscellaneous income, less expense,	37 56	
TOTAL INCOME,		$15,037 56
Salaries and maintenance of organization,		253 24
NET INCOME,		14,784 32
Dividends declared (5 per cent.: regular, 4½ per cent., and ½ of one per cent. extra),		15,000 00
Deficit for year ending June 30, 1890,		215 68
Balance Profit and Loss Account June 30, 1889 (deficit),		1,280 69
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (DEFICIT),		1,496 37

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$276,601 19	
Lands in Massachusetts,	21,492 38	
TOTAL PERMANENT INVESTMENTS,		$298,093 57
Cash,		410 06
Profit and Loss balance,		1,496 37
TOTAL,		$300,000 00

CR.

Capital stock,	$300,000 00
TOTAL,	300,000 00

CAPITAL STOCK.

Capital stock authorized by charter,	$300,000 00	
Capital stock authorized by votes of company,	300,000 00	
Capital stock issued (number of shares, 3,000); amount paid in,		$300,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		300,000 00

Total number of stockholders, . . .	234	
Number of stockholders in Massachusetts, .	216	
Amount of stock held in Massachusetts, . .	$285,700 00	

Description of Road Owned.

Main line of road from North Chelmsford to Ayer, . .	13.16 miles.
Main line of road in Massachusetts, ...	13.16 "
Total road belonging to this company, ...	13.16 "
Sidings and other tracks not before enumerated, . . .	4.31 "
Same in Massachusetts, ...	4.31 "
Total Length of Track owned, computed as Single Track,	17.47 "
Same in Massachusetts, ...	17.47 "

General Information.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade, ...	13
Number of highway bridges less than 18 feet above track, .	3
Number of crossings at which gates or flagman are maintained,	3
Number of crossings at which there are neither signals nor flagman, ...	10

Name and Residence of Officers.

James B. Francis, *President*, Lowell, Mass. Jacob Rogers, *Treasurer and Clerk of Corporation*, Lowell, Mass.

Name and Residence of Directors last elected.

James B. Francis, Lowell, Mass. Sewall G. Mack, Lowell, Mass. Geo. F. Richardson, Lowell, Mass. Jacob Rogers, Lowell, Mass. George Motley, Lowell, Mass. Henry C. Howe, Lowell, Mass. J. Henry Read, Westford, Mass.

Proper Address of the Company.

STONY BROOK RAILROAD CORPORATION,
Lowell, Mass.

FRANK JONES,
GEORGE C. LORD,
JOSEPH S. RICKER,
WM. S. STEVENS,
RICHARD OLNEY,
AMOS PAUL,
ASA P. POTTER,
Directors of Boston & Maine Railroad.

HERBERT E. FISHER,
Assistant Treasurer of Boston & Maine Railroad.

JAS. T. FURBER,
General Manager of Boston & Maine Railroad.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. BOSTON, Aug. 26, 1890. Then personally appeared Frank Jones, George C. Lord, Joseph S. Ricker, Wm. S. Stevens, Richard Olney, Amos Paul, Asa P. Potter, Jas. T. Furber and Herbert E. Fisher, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

SIGOURNEY BUTLER,
Justice of the Peace.

REPORT

OF THE

UNION FREIGHT RAILROAD COMPANY,

For the Year Ending June 30, 1890.

INCOME ACCOUNT.		
General Exhibit for the Year.		
Gross earnings from operation,	$92,417 46	
Less operating expenses,	51,461 33	
Income from operation,		$40,956 13
Dividends on stocks owned (Union Freight Railroad),		910 00
TOTAL INCOME,		41,866 13
Deductions from income:		
Interest and discount on interest-bearing current liabilities,	$3,030 77	
Taxes,	2,267 73	
Rentals for tracks, yards and terminals,	8,000 00	
Total deductions from income,		$13,298 50
NET INCOME,		28,567 63
Dividends declared (7 per cent. on common stock),		21,000 00
Surplus for year ending June 30, 1890,		7,567 63
Balance Profit and Loss Account June 30, 1889 (surplus),		39,429 85
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		46,997 48
EARNINGS FROM OPERATION.		
Freight:		
Freight revenue,		$92,416 46
TOTAL GROSS EARNINGS FROM OPERATION,		$92,416 46
OPERATING EXPENSES.		
Maintenance of way and structures:		
Repairs of roadway,		$10,555 23
Renewals of rails,		998 39
Repairs of buildings,		118 87
TOTAL,		$11,672 49
Maintenance of equipment:		
Repairs and depreciation of locomotives,		$5,689 42
TOTAL,		$5,689 42
Conducting transportation:		
Wages of enginemen, firemen and roundhousemen,		$7,142 94
Fuel for locomotives,		3,900 26
Water supply for locomotives,		256 80
All other supplies for locomotives,		443 90
Wages of other trainmen,		11,081 92

Conducting transportation — *Concluded.*	
All other train supplies,	$187 52
Wages of switchmen, flagmen and watchmen,	1,187 59
Expense of telegraph, including train despatchers and operators,	130 80
Wages of station agents, clerks and laborers,	2,464 17
Station supplies,	93 48
Car mileage balances,	829 34
Loss and damage,	43 50
Injuries to persons,	999 00
TOTAL,	$28,761 22
General expenses:	
Salaries of officers,	$3,899 92
Salaries of clerks,	599 24
General office expenses and supplies,	23 75
Rentals not otherwise provided for,	2 62
Legal expenses,	290 00
Stationery and printing,	236 57
Other general expenses,	286 10
TOTAL,	$5,338 20
Recapitulation of expenses:	
Maintenance of way and structures,	$11,672 49
Maintenance of equipment,	5,689 42
Conducting transportation,	28,761 22
General expenses,	5,338 20
GRAND TOTAL,	$51,461 33
Percentage of operating expenses to earnings,	55.68

General Balance Sheet June 30, 1890.

DR.		
Cost of road,	$401,069 67	
Cost of equipment,	14,000 00	
Stock of Union Freight Railroad Company,	13,000 00	
TOTAL PERMANENT INVESTMENTS,		$428,069 67
Cash,	$41,048 45	
Due from agents,	2 00	
Net traffic balances due from other companies,	1,290 72	
TOTAL CASH AND CURRENT ASSETS,		42,341 17
Materials and supplies,		3,550 75
TOTAL,		$473,961 59
CR.		
Capital stock,		$300,000 00
Current liabilities:		
Loans and bills payable,	$110,000 00	
Audited vouchers and accounts,	14,580 28	
Wages and salaries,	2,383 83	
TOTAL CURRENT LIABILITIES,*		126,964 11
Profit and Loss balance,		46,997 48
TOTAL,		$473,961 59

---

* There are also claims amounting to some $10,000 for personal injuries.

CAPITAL STOCK.

Capital stock authorized by charter,	$500,000 00	
Capital stock authorized by votes of company,	300,000 00	
Capital stock issued (number of shares, 3,000); amount paid in,		$300,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		300,000 00
Total number of stockholders,	3	
Number of stockholders in Massachusetts,	3	
Amount of stock held in Massachusetts,	$300,000 00	

PASSENGER, FREIGHT AND TRAIN MILEAGE.

Freight traffic:	
Number of tons carried of freight earning revenue,	331,837
Number of tons carried one mile,	457,874
Average distance haul of one ton,	1.38
Total freight revenue,	$92,416 46
Average amount received for each ton of freight,	27.85 cents.
Average receipts per ton per mile,	20.18 "
Estimated cost of carrying one ton one mile,	11.24 "
Freight earnings per mile of road,	$38,015 81
Freight earnings per train mile,	$3 39.4
Train mileage:	
Miles run by freight trains,	27,228
Total mileage trains earning revenue,	27,228
Total train mileage,	27,228
Average number of persons employed,	45
Rates of freight:	
Average rate per ton per mile received from freight waybilled local,	2.02 cents.
Average rate per ton per mile received from freight waybilled jointly with other railroads and transportation companies,	1.74 "

DESCRIPTION OF ROAD OWNED.

Main line of road from Boston & Lowell Railroad, on the north, to Old Colony Railroad on the south, in the city of Boston,	2.431 miles.
Same in Massachusetts,	2.431 "
Double track on main line,	.937 mile.
Same in Massachusetts,	.937 "
Total road belonging to this company,	2.431 miles.
Sidings and other tracks not before enumerated,	1.280 "
Same in Massachusetts,	1.280 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	4.648 "
Same in Massachusetts,	4.648 "
Total length of tracks laid with steel rails,	4.648 "
[Weight per yard, 88 pounds.]	
Total miles of road operated by this company,	2.431 "
Total miles of road operated by this company in Massachusetts,	2.431 "

DESCRIPTION OF EQUIPMENT.

	Number Owned.	Total Number.	Maximum Weight.	Average Weight.
Locomotives:			Tons.	Tons.
Freight,	4	4	31	31
TOTAL,	4	4	-	-

List of Accidents.

	From Causes beyond their own Control (in Massachusetts).		From their own Misconduct or Carelessness (in Massachusetts).		Total in Massachusetts.		Total on Whole Road operated.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, .	-	-	-	-	-	-	-	-
Employees, .	-	-	1	-	1	-	1	-
Others, . .	-	-	-	-	-	-	-	-

Statement of Each Accident in Massachusetts.

May 18, 1890. — Isaac Trask, a train flagman, fell from the cars in some way in Boston, and was run over and instantly killed.

Name and Residence of Officers.

Charles F. Choate, *President*, Southborough, Mass. James R. Kendrick, *General Manager*, Boston, Mass. A. H. Grosvenor, *Superintendent*, Boston, Mass. S. C. Putnam, *General Freight Agent*, Hyde Park, Mass. John M. Washburn, *Treasurer and Clerk of Corporation*, Boston, Mass.

Name and Residence of Directors last elected.

Charles F. Choate, Southborough, Mass. Frederick L. Ames, North Easton, Mass. Samuel C. Cobb, Boston, Mass. James R. Kendrick, Boston, Mass. Nathaniel Thayer, Boston, Mass. Royal W. Turner, Randolph, Mass.

Proper Address of the Company.

UNION FREIGHT RAILROAD COMPANY,
Box 379, Boston, Mass.

CHARLES F. CHOATE,
FRED'K L. AMES,
J. R. KENDRICK,
ROYAL W. TURNER,
Directors.
JOHN M. WASHBURN,
Treasurer.
J. R. KENDRICK,
General Manager.
A. H. GROSVENOR,
Superintendent.

Commonwealth of Massachusetts.

Suffolk, ss. August, 1890. Then personally appeared Charles F. Choate, Fred'k L. Ames, J. R. Kendrick, Royal W. Turner, J. M. Washburn and A. H. Grosvenor, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

AUSTIN W. ADAMS,
Justice of the Peace.

REPORT

OF THE

VERMONT & MASSACHUSETTS RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Fitchburg Railroad Company.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,	$194,580 00
TOTAL INCOME,	194,580 00
Salaries and maintenance of organization,	3,000 00
NET INCOME,	191,580 00
Dividends declared (6 per cent.),	191,580 00
Balance Profit and Loss Account June 30, 1889 (surplus),	142,002 28
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),	142,002 28

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$3,288,328 01	
Cost of equipment,	261,233 64	
Turner's Falls Branch,	145,300 63	
Lands in Massachusetts,	65,973 38	
TOTAL PERMANENT INVESTMENTS,		$3,760,835 66
Cash,	$10,222 75	
Balance account of Fitchburg Railroad Company,	576,169 64	
City Institution for Savings in Lowell,	354 53	
TOTAL CASH AND CURRENT ASSETS,		586,746 92
TOTAL,		$4,347,582 58

CR.

Capital stock,		$3,193,000 00
Funded debt,		1,000,000 00
Current liabilities:		
Audited vouchers and accounts,	$2,357 55	
Dividends not called for,	10,222 75	
TOTAL CURRENT LIABILITIES,		12,580 30
Profit and Loss balance,		142,002 28
TOTAL,		$4,347,582 58

CAPITAL STOCK.

Capital stock authorized by charter,	$4,700,000 00	
Capital stock authorized by votes of company,	3,193,000 00	
Capital stock issued (number of shares, 31,930); amount paid in,		$3,193,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		3,193,000 00
Total number of stockholders,	1,216	
Number of stockholders in Massachusetts,	1,056	
Amount of stock held in Massachusetts,	$2,937,400 00	

DEBT.

Funded debt as follows:		
Bonds due May 1, 1903, rate of interest 5 per cent.,		$1,000,000 00
Interest paid on same during year,	$50,000 00*	

DESCRIPTION OF ROAD OWNED.

Main line of road from Fitchburg to Greenfield,	56	miles.
Main line of road in Massachusetts,	56	"
Double track on main line,	56	"
Same in Massachusetts,	56	"
Branches owned by company, viz.:		
Turner's Falls Branch (single track),	2.8	"
Total length of branches owned by company,	2.8	"
Total length of branches owned by company in Massachusetts,	2.8	"
Total road belonging to this company,	58.8	"
Sidings and other tracks not before enumerated,	28.1	"
Same in Massachusetts,	28.1	"
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	142.9	"
Same in Massachusetts,	142.9	"
Total length of tracks laid with steel rails,	116	"

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	32
Number of crossings of highways over railroad,	14
Number of crossings of highways under railroad,	15
Number of highway bridges 18 feet above track,	14
Height of lowest bridge above the rail,	18 feet.
Number of crossings at which gates or flagman are maintained,	13
Number of crossings at which electric signals are maintained,	1
Number of crossings at which there are neither signals nor flagman,	19
Number of railroad crossings at grade (specifying each),	1
Ware River Railroad.	
Number of railroad crossings over other railroads (specifying each),	2
New Haven & Northampton at Deerfield.	
New Haven & Northampton at Turner's Falls.	
Number of railroad crossings under other railroads (specifying each),	2
New London Northern Railroad.	
Connecticut River Railroad.	

---

* Interest paid by Fitchburg Railroad Company.

NAME AND RESIDENCE OF OFFICERS.

George F. Fay, *President*, Fitchburg, Mass. Franklin N. Poor, *Treasurer*, 53 Devonshire Street, Boston, Mass. B. D. Locke, *Clerk of Corporation*, Arlington, Mass.

Name and Residence of Directors last elected.

George F. Fay, Fitchburg, Mass. Thornton K. Ware, Fitchburg, Mass. Francis Goodhue, Brattleboro', Vt. Edward L. Davis, Worcester, Mass. Alvah Crocker, Fitchburg, Mass. Charles A. Welch, Boston, Mass. George F. Richardson, Lowell, Mass.

Proper Address of the Company.

VERMONT & MASSACHUSETTS RAILROAD COMPANY,
Treasurer's Office, 53 Devonshire Street,
Boston, Mass.

H. S. MARCY,
ROBERT CODMAN,
RODNEY WALLACE,
FRANCIS SMITH,
C. T. CROCKER,
J. Q. ADAMS,
DAVID P. KIMBALL,
FRED'K L. AMES,
JAS. RENFREW, Jr.,
GEO. HEYWOOD,
WM. H. HOLLISTER,
Directors of the Fitchburg Railroad Company.

DAN. A. GLEASON,
Treasurer.

JOHN ADAMS,
Superintendent.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Sept. 3, 1890. Then personally appeared H. S. Marcy, Robert Codman, Rodney Wallace, Francis Smith, C. T. Crocker, J. Q. Adams, David P. Kimball, Fred'k L. Ames, Jas. Renfrew, Jr., Geo. Heywood, Wm. H. Hollister, Dan. A. Gleason and John Adams, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

THOMAS WHITTEMORE,
Justice of the Peace.

REPORT

OF THE

WARE RIVER RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Boston & Albany Railroad Company.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,	$52,500 00
TOTAL INCOME,	52,500 00
Dividends declared (7 per cent.),	52,500 00

General Balance Sheet June 30, 1890.

DR.	
Cost of road,	$1,115,163 82
TOTAL,	$1,115,163 82
CR.	
Capital stock,	$750,000 00
Unfunded debt,	365,163 82
TOTAL,	$1,115,163 82

CAPITAL STOCK.

Capital stock authorized by charter,	$1,000,000 00	
Capital stock authorized by votes of company,	750,000 00	
Capital stock issued (number of shares, 7,500); amount paid in,		$750,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		750,000 00
Total number of stockholders,	135	
Number of stockholders in Massachusetts,	128	
Amount of stock held in Massachusetts,	$606,600 00	

DESCRIPTION OF ROAD OWNED.

Main line of road from Palmer to Winchendon,	49.35 miles.
Main line of road in Massachusetts,	49.35 "
Total road belonging to this company,	49.35 "
Sidings and other tracks not before enumerated,	6.11 "
Same in Massachusetts,	6.11 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	55.46 "
Same in Massachusetts,	55.46 "
Total length of tracks laid with steel rails,	45.09 "

[Weights per yard, 63 to 72 pounds.]

General Information.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	51
Number of crossings of highways over railroad,	1
Number of crossings of highways under railroad,	5
Number of highway bridges 18 feet above track,	1
Height of lowest bridge above the rail,	18 ft. 3 in.
Number of crossings at which gates or flagman are maintained,	1
Number of crossings at which there are neither signals nor flagman,	50
Number of railroad crossings at grade (specifying each),	2
Vermont & Massachusetts Railroad.	
Cheshire Railroad.	
Number of railroad crossings over other railroads (specifying each),	1
Massachusetts Central Railroad.	

Name and Residence of Officers.

J. A. Rumrill, *President*, Springfield, Mass. C. E. Stevens, *Treasurer*, Hingham, Mass. E. W. Long, *Clerk of Corporation*, Boston, Mass.

Name and Residence of Directors last elected.

J. A. Rumrill, Springfield, Mass. C. A. Stevens, Ware, Mass. E. B. Gillett, Westfield, Mass. C. E. Stevens, Hingham, Mass. H. B. Chapin, Boston, Mass. Chas. S. Sargent, Brookline, Mass. C. E. Stevens, Ware, Mass.

Proper Address of the Company.

WARE RIVER RAILROAD COMPANY,
Springfield, Mass.

J. A. RUMRILL,
EDW. B. GILLETT,
C. E. STEVENS,
H. B. CHAPIN,
Directors.
C. E. STEVENS,
Treasurer.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Aug. 8, 1890. Then personally appeared J. A. Rumrill, Edw. B. Gillett, C. E. Stevens and H. B. Chapin, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

FRANK H. RATCLIFFE,
Justice of the Peace.

REPORT

OF THE

WEST AMESBURY BRANCH RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Boston & Maine Railroad Company.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,		$5,700 00
TOTAL INCOME,		5,700 00
Salaries and maintenance of organization,	$53 02	
Interest on funded debt,	3,990 00	
Taxes,	433 17	
TOTAL,		4,476 19
NET INCOME,		1,223 81
Dividends declared (1½ per cent.),		855 00
Surplus for year ending June 30, 1890,		368 81
Balance Profit and Loss Account June 30, 1889 (surplus),		263 12
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		631 93

General Balance Sheet June 30, 1890.

DR.

Cost of road,		$114,000 00
Cash,		667 43
TOTAL,		$144,667 43

CR.

Capital stock,		$57,000 00
Funded debt,		57,000 00
Current liabilities:		
Dividends not called for,	$7 50	
Matured interest coupons unpaid (including coupons due July 1),	28 00	
TOTAL CURRENT LIABILITIES,		35 50
Profit and Loss balance,		631 93
TOTAL,		$114,667 43

CAPITAL STOCK.

Capital stock authorized by charter,	$150,000 00	
Capital stock authorized by votes of company,	114,000 00	
Capital stock issued (number of shares, 570); amount paid in,		$57,000 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		57,000 00
Total number of stockholders,	27	
Number of stockholders in Massachusetts,	24	
Amount of stock held in Massachusetts,	$41,300 00	

DEBT.

Funded debt, as follows:		
Bonds due July 1, 1893, rate of interest 7 per cent.,		$57,000 00
Interest paid on same during year,	$3,990 00	

DESCRIPTION OF ROAD OWNED.

Main line of road from Merrimac to Newton, N. H.,	4.45 miles.
Main line of road in Massachusetts,	2.13 "
Main line of road in New Hampshire,	2.32 "
Total road belonging to this company,	4.45 "
Sidings and other tracks not before enumerated,	.49 mile.
Same in Massachusetts,	.11 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	4.94 miles.
Same in Massachusetts,	2.24 "

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade,	1
Number of crossings of highways under railroad,	1
Number of crossings at which there are neither signals nor flagman,	1

NAME AND RESIDENCE OF OFFICERS.

Wm. H. Haskell, *President*, Merrimac, Mass. Daniel J. Poore, *Treasurer and Clerk of Corporation*, Merrimac, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Wm. H. Haskell, Merrimac, Mass. Benj. F. Sargent, Merrimac, Mass. Albert Sargent, Merrimac, Mass. John B. Judkins, Merrimac, Mass. E. R. Brown, Dover, N. H.

PROPER ADDRESS OF THE COMPANY.

WEST AMESBURY BRANCH RAILROAD COMPANY,
MERRIMAC, MASS.

WM. H. HASKELL,
B. F. SARGENT,
ALBERT SARGENT,
Directors.

DANIEL J. POORE,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

ESSEX, ss. MERRIMAC, Sept. 5, 1890. Then personally appeared Wm. H. Haskell, B. F. Sargent, Albert Sargent and D. J. Poore, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

O. E. LITTLE,
Notary Public.

REPORT

OF THE

WEST STOCKBRIDGE RAILROAD CORPORATION,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Housatonic Railroad Company of Connecticut.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,		$1,950 00
TOTAL INCOME,		1,950 00
Salaries and maintenance of organization,	$65 25	
Taxes,	311 46	
TOTAL,		376 71
NET INCOME,		1,573 29
Dividends declared (4.20 per cent),		1,663 20
Deficit for year ending June 30, 1890,		89 91
Balance Profit and Loss Account June 30, 1889 (surplus),		1,680 67
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		1,590 76

General Balance Sheet June 30, 1890.

DR.

Cost of road,		$39,600 00
Cash,	$240 76	
Due from solvent companies and individuals,	1,350 00	
TOTAL CASH AND CURRENT ASSETS,		1,590 76
TOTAL,		$41,190 76

CR.

Capital stock,	$39,600 00
Profit and Loss balance,	1,590 76
TOTAL,	$41,190 76

CAPITAL STOCK.

Capital stock authorized by charter,	$75,000 00	
Capital stock authorized by votes of company,	39,600 00	
Capital stock issued (number of shares, 396); amount paid in,		$39,600 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		39,600 00
Total number of stockholders,	6	

DESCRIPTION OF ROAD OWNED.

Main line of road from West Stockbridge to State line,	2.64 miles.
Main line of road in Massachusetts,	2.64 "

Name and Residence of Officers.

W. H. Starbuck, *President*, New York, N. Y. W. A. Stevenson, *Managing Director*, Bridgeport, Conn. M. E. Stone, *Treasurer and Clerk of Corporation*, New York, N. Y.

Name and Residence of Directors last elected.

W. H. Starbuck, New York, N. Y. J. L. Macaulay, New York, N. Y. J. A. Bostwick, New York, N. Y. M. E. Stone, New York, N. Y. W. H. Stevenson, Bridgeport, Conn.

Proper Address of the Company.

WEST STOCKBRIDGE RAILROAD CORPORATION,
36 Wall Street, New York, N. Y.

W. H. STARBUCK,
J. L. MACAULAY,
M. E. STONE,
Directors.
M. E. STONE,
Treasurer.

State of New York.

City and County of New York, ss. July 10, 1890. Then personally appeared W. H. Starbuck, J. L. Macaulay and M. E. Stone, three of the directors, and M. E. Stone, treasurer of the West Stockbridge Railroad Corporation, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

JNO. A. HILLERY,
Commissioner for the Commonwealth of Massachusetts,
At No. 56 Wall Street in New York City.

REPORT

OF THE

WORCESTER, NASHUA & ROCHESTER RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[This road is leased to and operated by the Boston & Maine Railroad.]

INCOME ACCOUNT.

General Exhibit for the Year.

Income from lease of road,		$250,000 00
Premium on bonds,		4,000 00
TOTAL INCOME,		$254,000 00
Salaries and maintenance of organization,	$1,878 56	
Interest on funded debt,	67,182 78	
Interest and discount on interest-bearing current liabilities,	18,744 66	
TOTAL,		$87,806 00
NET INCOME,		166,194 00
Dividends declared (6 per cent. on 30,644 shares),		183,864 00
Deficit for year ending June 30, 1890,		17,670 00
Balance Profit and Loss Account June 30, 1889 (deficit),		259,817 28
TOTAL PROFIT AND LOSS ACCOUNT (DEFICIT),		277,487 28
Add: On account of old claims,		2,357 16
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (DEFICIT),		279,844 44

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$4,138,584 99	
Cost of equipment,	415,336 03	
TOTAL PERMANENT INVESTMENTS,		$4,553,921 02
Cash,	$1,617 03	
Due from solvent companies and individuals,	4,004 81	
Worcester, Nashua & Rochester Railroad stock,	35,300 00	
TOTAL CASH AND CURRENT ASSETS,		40,921 84
Profit and Loss balance,		279,844 44
TOTAL,		$4,874,687 30

Cr.

Capital stock,		$3,099,800 00
Funded debt,		1,540,000 00
Current liabilities:		
Loans and bills payable,	$215,000 00	
Audited vouchers and accounts,	641 47	
Matured interest coupons unpaid (including coupons due July 1),	725 00	
Accrued interest on funded debt not yet payable,	18,520 83	
TOTAL CURRENT LIABILITIES,		234,887 30
TOTAL,		$4,874,687 30

CAPITAL STOCK.

Capital stock authorized by charter,	$3,600,000 00	
Capital stock authorized by votes of company,	3,099,800 00	
Capital stock issued (number of shares, 30,998); amount paid in,		$3,099,800 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		3,099,800 00
Total number of stockholders,	825	
Number of stockholders in Massachusetts,	574	
Amount of stock held in Massachusetts,	$1,987,800 00	

DEBT.

Funded debt, as follows:		
Mortgage bonds due April 1, 1893, rate of interest 5 per cent.,		$250,000 00
Interest paid on same during year,	$12,500 00	
Mortgage bonds due April 1, 1894, rate of interest 5 per cent.,		565,000 00
Interest paid on same during year,	$27,650 00	
Mortgage bonds due Feb. 1, 1895, rate of interest 5 per cent.,		400,000 00
Interest paid on same during year,	$20,000 00	
Mortgage bonds due Jan. 1, 1906, rate of interest 4 per cent.,		150,000 00
Interest paid on same during year,	$6,000 00	
Mortgage bonds due Jan. 1, 1930, rate of interest 4 per cent.,		175,000 00
Interest paid on same during year,	$432 78	
TOTAL AMOUNT OF FUNDED DEBT,		$1,540,000 00

DESCRIPTION OF ROAD OWNED.

Main line of road from Worcester, Mass., to Rochester, N. H.,	94.48 miles.
Main line of road in Massachusetts,	39.46 "
Main line of road in New Hampshire,	55.02 "
Double track on main line,	18.13 "
Same in Massachusetts,	18.13 "
Total road belonging to this company,	94.48 "
Sidings and other tracks not before enumerated,	29.47 "
Same in Massachusetts,	16.25 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	142.08 "
Same in Massachusetts,	73.84 "
Total length of tracks laid with steel rails,	.89 mile.

[Weights per yard, 58 to 60 pounds.]

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade, ...	37
Number of crossings of highways over railroad, . . .	7
Number of crossings of highways under railroad, . . .	8
Number of highway bridges 18 feet above track, . . .	4
Number of highway bridges less than 18 feet above track, .	3
Height of lowest bridge above the rail, ...	15 feet.
Number of crossings at which gates or flagman are maintained, ...	18
Number of crossings at which there are neither signals nor flagman, ...	19
Number of railroad crossings at grade (specifying each), .	5
Worcester Division of the Fitchburg Railroad in Worcester.	
Central Massachusetts at Oakdale.	
Old Colony at Clinton.	
Fitchburg and Peterborough & Shirley at Ayer.	

NAME AND RESIDENCE OF OFFICERS.

James P. Cook, *President*, Salem, Mass. F. P. Goulding, *General Counsel*, Worcester, Mass. T. W. Hammond, *Treasurer and Clerk of Corporation*, Worcester, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

James P. Cook, Salem, Mass. Charles A. Sinclair, Portsmouth, N. H Frank Jones, Portsmouth, N. H. George C. Lord, Newton, Mass. Elijah B. Stoddard, Worcester, Mass. George W. Armstrong, Brookline, Mass. Frank A. McKean, Nashua, N. H., John A. Spalding, Nashua, N. H., Charles Holman, Nashua, N. H.

PROPER ADDRESS OF THE COMPANY.

WORCESTER, NASHUA & ROCHESTER RAILROAD COMPANY,
WORCESTER, MASS.

JAMES P. COOK,
E. B. STODDARD,
GEO. W. ARMSTRONG,
J. A. SPALDING,
FRANK A. McKEAN,
Directors.
T. W. HAMMOND,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Sept. 3, 1890. Then personally appeared James P. Cook and George W. Armstrong, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

HENRY T. GOOLD,
Justice of the Peace.

COMMONWEALTH OF MASSACHUSETTS.

WORCESTER, ss. Aug. 26, 1890. Then personally appeared E. B. Stoddard and T. W. Hammond, and made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

J. STEWART BROWN,
Justice of the Peace.

STATE OF NEW HAMPSHIRE.

HILLSBOROUGH, ss. Aug. 25, 1890. Then personally appeared J. A. Spalding and Frank A. McKean, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

W. E. SPALDING,
Justice of the Peace.

WORCESTER, Aug. 28, 1890.

The undersigned, Commissioner of Worcester & Nashua Railroad for the Commonwealth of Massachusetts, having examined the foregoing report, believes it to be correct, and hereby approves the same.

JOHN J. PUTNAM.

The undersigned, Commissioner of the Commonwealth of Massachusetts of the Worcester & Nashua Railroad, on the 28th day of August, 1890, examined the accounts of said road, to determine what proportion of the receipts and expenditures pertained to that part of the road lying in Massachusetts, and what proportion to that part lying in New Hampshire.

Cost of entire road (W. N. & R.),	94.48 miles,	$4,138,584 99
Cost of miles of road in Massachusetts,	39.46 miles,	1,991,582 59
Cost of miles of road in New Hampshire,		2,147,002 40
Cost of equipment of entire road,		415,336 03
Cost of equipment of entire road in Massachusetts,		277,000 69
Cost of equipment of entire road in New Hampshire,		138,335 34
Total income from entire road (rental),		250,000 00
Premium on bonds,		4,000 00
Income from road lying in Massachusetts,		187,500 00
Income from road lying in New Hampshire,		62,500 00
Net income from entire road,		166,194 00
Net income from road lying in Massachusetts,		124,645 00
Net income from road lying in New Hampshire,		41,549 00
Total expenses of corporation,		1,878 56

And the apportionment is hereby made according to the above figures.

JOHN J. PUTNAM,
Commissioner.

REPORT

OF THE

WORCESTER & SHREWSBURY RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[A narrow-gauge road.]

INCOME ACCOUNT.

General Exhibit for the Year.

Gross earnings from operation,	$33,093 42	
Less operating expenses,	23,868 13	
Income from operation,		$9,225 29
Deductions from income:		
Interest on funded debt accrued during year,	$13 20	
Interest and discount on interest-bearing current liabilities,	229 28	
Taxes,	327 06	
Total deductions from income,		1,876 34
NET INCOME,		7,348 95
Surplus for year ending June 30, 1890,		7,348 95
Balance Profit and Loss Account June 30, 1889 (surplus),		31,079 38
BALANCE PROFIT AND LOSS ACCOUNT JUNE 30, 1890 (SURPLUS),		38,428 33

EARNINGS FROM OPERATION.

Passenger:	
Passenger revenue,	$32,813 53
Mail,	196 37
TOTAL PASSENGER EARNINGS,	$33,009 90
Other earnings from operation:	
Sale of railroad iron,	83 52
TOTAL GROSS EARNINGS FROM OPERATION,	$33,093 42

OPERATING EXPENSES.

Maintenance of way and structures:	
Repairs of roadway,	$1,470 61
Renewals of ties,	289 45
Repairs of fences, road-crossings, signs and cattle-guards,	289 02
TOTAL,	$2,049 08
Maintenance of equipment:	
Repairs and renewals of locomotives,	$1,104 19
Repairs and renewals of passenger cars,	869 36
TOTAL,	$1,973 55
Conducting transportation:	
Wages of enginemen, firemen and roundhousemen,	$1,880 85
Fuel for locomotives,	3,622 12
Water supply for locomotives,	177 60

Conducting transportation — *Concluded.*	
All other supplies for locomotives,	$427 65
Wages of other trainmen,	2,086 70
All other train supplies,	153 76
Wages of station agents, clerks and laborers,	600 00
Station supplies,	30 83
TOTAL,	$8,979 51
General expenses:	
Salaries of officers,	$1,800 00
Advertising,	8,226 46
Insurance,	162 70
Stationery and printing,	411 79
Other general expenses,	265 04
TOTAL,	$10,865 99
Recapitulation of expenses:	
Maintenance of way and structures,	$2,049 08
Maintenance of equipment,	1,973 55
Conducting transportation,	8,979 51
General expenses,	10,865 99
GRAND TOTAL,	$23,868 13

General Balance Sheet June 30, 1890.

DR.

Cost of road,	$57,759 92	
Cost of equipment,	42,801 48	
TOTAL PERMANENT INVESTMENTS,		$100,561 40
Cash,		35 08
TOTAL,		$100,596 48

CR.

Capital stock,	$36,825 00
Funded debt,	22,000 00
Loans and bills payable,	3,343 15
Profit and Loss balance,	38,428 33
TOTAL,	$100,596 48

CAPITAL STOCK.

Capital stock authorized by charter,	$40,000 00	
Capital stock authorized by votes of company,	36,700 00	
Capital stock issued (number of shares, 367); amount paid in,		$36,700 00
Capital stock paid in on shares not issued,		125 00
TOTAL AMOUNT PAID IN AS PER BOOKS OF THE COMPANY,		36,825 00
Total number of stockholders,	10	
Number of stockholders in Massachusetts,	10	
Amount of stock held in Massachusetts,	$36,825 00	

DEBT.

Funded debt, as follows:		
Bonds due Jan. 1, 1895, rate of interest 6 per cent.,		$22,000 00
Interest paid on same during the year,	$1,320 00	

PASSENGER, FREIGHT AND TRAIN MILEAGE.	
Passenger traffic:	
Number of passengers carried earning revenue,	458,247
Number of passengers carried one mile,	12,372,669
Average distance carried,	2.7
Total passenger revenue,	$32,813 53
Average amount received from each passenger,	7.1 cents.
Average receipts per passenger per mile,	2.6 "
Estimated cost of carrying each passenger one mile,	2 "
Passenger earnings per mile of road,	$12,153 16
Passenger earnings per train mile,	92 cents.
Train mileage:	
Miles run by passenger trains,	35,530
Total train mileage,	35,530
Average number of persons employed,	9
DESCRIPTION OF ROAD OWNED.	
Main line of road from Worcester to Lake Quinsigamond,	2.7 miles.
Main line of road in Massachusetts,	2.7 "
Total road belonging to this company,	2.7 "
TOTAL LENGTH OF TRACK OWNED, COMPUTED AS SINGLE TRACK,	2.7 "
Same in Massachusetts,	2.7 "
Total length of tracks laid with steel rails,	2.7 "
Total miles of road operated by this company,	2.7 "
Total miles of road operated by this company in Massachusetts,	2.7 "
Number of stations in Massachusetts on all roads operated by this company,	4
GENERAL INFORMATION.	
Highway and Railroad Crossings in Massachusetts on Miles of Road owned.	
Number of crossings of highways at grade,	3
Number of crossings at which there are neither signals nor flagman,	3

DESCRIPTION OF EQUIPMENT.

	Number Owned.	Average Weight.	Number Equipped with Train Brake.	Number Equipped with Driving-Wheel Brake.	Number Equipped with Patent Coupler.
Locomotives:		Tons.			
Passenger,	4	22½	4	4	–
TOTAL,	4	22½	4	4	–
Passenger cars,	8	10	–	–	6
TOTAL,	8	10	–	–	6
Coal freight cars (basis of 8 wheels),	4	–	–	–	–
TOTAL,	4	–	–	–	–

NAME AND RESIDENCE OF OFFICERS.

Horace H. Bigelow, *President and Treasurer*, Worcester, Mass. Irving E. Bigelow, *General Manager, Superintendent, and Clerk of Corporation*, Worcester, Mass. Solomon K. Hindley, *Auditor*, Springfield, Mass.

Name and Residence of Directors last elected.

Josiah H. Clarke, Worcester, Mass. Chas. S. Turner, Worcester, Mass. George A. Stevens, Worcester, Mass. Horace H. Bigelow, Worcester, Mass. George H. Ball, Boston, Mass.

Proper Address of the Company.

WORCESTER & SHREWSBURY RAILROAD COMPANY,
Washington Square, Worcester, Mass.

JOSIAH H. CLARKE,
HORACE H. BIGELOW,
CHAS. S. TURNER,
GEO. A. STEVENS,
Directors.

HORACE H. BIGELOW,
Treasurer.

IRVING E. BIGELOW,
Superintendent.

Commonwealth of Massachusetts.

Worcester, ss. Sept. 25, 1890. Then personally appeared Josiah H. Clarke, Horace H. Bigelow, Chas. S. Turner, George A. Stevens and Irving E. Bigelow, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

W. N. RICE,
Justice of the Peace.

REPORT

OF THE

HOUSATONIC RAILROAD COMPANY,

FOR THE YEAR ENDING JUNE 30, 1890.

[Showing revenue, expenses of operating, mileage, traffic, etc., on roads leased and operated by this company in Massachusetts, the same being the Berkshire, the Stockbridge & Pittsfield, and the West Stockbridge railroads.]

INCOME ACCOUNT.

General Exhibit for the Year.

Gross earnings from operation,	$359,521 38	
Less operating expenses,	202,397 99	
Income from operation,		$157,123 39
Deductions from income:		
Rentals:		
Berkshire Railroad,	$42,000 00	
Stockbridge & Pittsfield Railroad,	31,409 00	
West Stockbridge Railroad,	1,800 00	
Proportion of contingent expenses,	39,973 61	
Total deductions from income,		115,182 61
Surplus for year ending June 30, 1890,		41,940 78

EARNINGS FROM OPERATION.

Passenger:	
Passenger revenue,	$125,723 42
Mail,	4,652 85
Express,	8,972 85
Other items,	7,164 50
TOTAL PASSENGER EARNINGS,	$146,513 62
Freight:	
Freight revenue,	199,983 48
Other items,	13,024 28
TOTAL FREIGHT EARNINGS,	$213,007 76
TOTAL GROSS EARNINGS FROM OPERATION,	359,521 38

OPERATING EXPENSES.

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures:			
Repairs of roadway,	$10,171 68	$14,289 82	$24,461 50
Renewals of rails,	781 10	1,061 20	1,842 30
Renewals of ties,	4,188 68	5,690 68	9,879 36
Repairs of bridges and culverts,	1,412 69	1,919 72	3,332 41

---

* See note on page 274.

OPERATING EXPENSES — *Concluded.*

	Chargeable to Passenger Traffic.*	Chargeable to Freight Traffic.*	Total.
Maintenance of way and structures — *Concluded.*			
Repairs of fences, road crossing, signs and cattle guards,	$433 89	$588 54	$1,022 43
Repairs of buildings,	734 48	997 74	1,732 22
Repairs of telegraph,	94 40	130 71	225 11
Other expenses,	65 68	104 73	170 41
TOTAL,	$17,882 60	$24,783 14	$42,665 74
Maintenance of equipment:			
Repairs and renewals of locomotives,	$4,195 46	$5,699 89	$9,895 35
Repairs and renewals of passenger cars,	4,017 92	-	4,017 92
Repairs and renewals of freight cars,	-	7,221 20	7,221 20
Shop machinery, tools, etc.,	24 93	33 89	58 82
Other expenses,	164 07	223 00	387 07
TOTAL,	$8,402 38	$13,177 98	$21,580 36
Conducting transportation:			
Wages of enginemen, firemen and roundhouse-men,	$9,118 35	$12,388 08	$21,506 43
Fuel for locomotives,	13,308 30	18,062 85	31,371 15
Water supply for locomotives,	374 85	509 27	884 12
All other supplies for locomotives,	587 21	797 76	1,384 97
Wages of other trainmen,	10,274 88	13,959 32	24,234 20
All other train supplies,	377 85	513 36	891 21
Wages of switchmen, flagmen and watchmen,	1,778 29	2,416 01	4,194 30
Expense of telegraph, including train despatchers and operators,	1,556 01	2,113 99	3,670 00
Wages of station agents, clerks and laborers,	9,113 78	12,481 92	21,595 70
Station supplies,	1,198 41	1,628 49	2,826 90
Car mileage balances,	21 49	-	21 49
Loss and damage,	1,672 81	2,364 59	4,037 40
Injuries to persons,	800 25	1,087 25	1,887 50
TOTAL,	$50,182 48	$68,322 89	$118,005 37
General expenses:			
Salaries of officers,	$2,549 76	$4,407 25	$6,957 01
Salaries of clerks,	1,800 12	1,742 56	3,542 68
Agencies, including salaries and rent,	1,365 39	1,855 05	3,220 44
Advertising,	426 59	579 59	1,006 18
Rentals not otherwise provided for,	479 42	618 66	1,098 08
Stationery and printing,	1,060 62	1,440 74	2,501 36
Other general expenses,	729 58	591 19	1,320 77
TOTAL,	$8,411 48	$11,235 04	$19,646 52
Recapitulation of expenses:			
Maintenance of way and structures,	$17,882 60	$24,783 14	$42,665 74
Maintenance of equipment,	8,402 38	13,177 98	21,580 36
Conducting transportation,	50,182 48	68,322 89	118,505 37
General expenses,	8,411 48	11,235 04	19,646 52
GRAND TOTAL,	$84,878 94	$117,519 05	$202,397 90
Percentage of operating expenses to earnings,	-	-	56.296

* The items in these columns which are not directly chargeable to either passenger or freight business are to be apportioned between the two on the basis of train mileage as prescribed by the Interstate Commerce Commission. The result, therefore, is not accurate, but only approximate, and this fact must be borne in mind in drawing conclusions therefrom.

PASSENGER, FREIGHT AND TRAIN MILEAGE.	
Passenger traffic:	
Number of passengers carried earning revenue,	328,560
Number of passengers carried one mile,	5,355,528
Average distance carried,	16.3

Passenger traffic — *Concluded.*	
Total passenger revenue,	$125,723 42
Average amount received from each passenger,	38.265 cents.
Average receipts per passenger per mile,	2.347 "
Estimated cost of carrying each passenger one mile,*	1.585 "
Passenger earnings per mile of road,	$2,697 93
Passenger earnings per train mile,	93.26 cents.
Freight traffic:	
Number of tons carried of freight earning revenue,	182,460
Number of tons carried one mile,	8,101,224
Average distance haul of one ton,	44.4
Total freight revenue,	$199,983 48
Average amount received for each ton of freight,	$1 096
Average receipts per ton per mile,	2.468 cents.
Estimated cost of carrying one ton one mile,*	1.450 "
Freight earnings per mile of road,	$4,291 49
Freight earnings per train mile, north or east,	$1 218
Freight earnings per train mile, south or west,	1 004
Passenger and freight:	
Passenger and freight earnings,	$325,706 90
Passenger and freight earnings per mile of road,	6,989 42
Expense per mile of road,	4,443 30
Total earnings per mile of road, including mails, express, etc.,	359,521 38
Train mileage:	
Miles run by passenger trains,	134,810
Miles run by freight trains,	143,170
Miles run by mixed trains,	42,640
Total mileage trains earning revenue,	320,620
Miles run by switching trains,	36,770
Miles run by construction and other trains,	4,830
Total train mileage,	362,220
Mileage of loaded freight cars, north or east,	705,850
Mileage of loaded freight cars, south or west,	631,620
Mileage of empty freight cars, north or east,	22,550
Mileage of empty freight cars, south or west,	16,910
Average number of freight cars in train,	23
Average number of loaded cars in train,	18
Average number of empty cars in train,	5
Average number of tons of freight in train,	83
Average number of tons of freight in each loaded car,	6
Average number of persons employed,	201
Rates of fare:	
Average rate of fare per mile received for local tickets,	2.938 cents.
Average rate of fare per mile received for commutation tickets,	.657 cent.
Average rate of fare per mile received for mileage tickets,	2 cents.
Average rate of fare per mile received for season tickets,	.657 cent.
Average rate of fare per mile received from passengers on joint tickets to and from other railroads and transportation companies, local rates,	2.938 cents.
Rates of freight:	
Average rate per ton per mile received from freight way-billed local,	2.953 "
Average rate per ton per mile received from freight way-billed jointly with other railroads and transportation companies,	2.584 "

DESCRIPTION OF ROAD OWNED.

Branches leased by company, viz:	
Stockbridge & Pittsfield Railroad (single track),	22.93 miles.
Berkshire Railroad (single track),	21.03 "
West Stockbridge Railroad (single track),	2.64 "

---

* See note under "Operating Expenses."

Sidings and other tracks not before enumerated:	
Stockbridge & Pittsfield Railroad,	4.99 miles.
Berkshire Railroad,	4.49 "
West Stockbridge Railroad,	2.38 "
Same in Massachusetts,	11.86 "
TOTAL LENGTH OF TRACK, COMPUTED AS SINGLE TRACK:	
Stockbridge & Pittsfield Railroad,	27.92 "
Berkshire Railroad,	25.52 "
West Stockbridge Railroad,	5.02 "
Same in Massachusetts,	58.46 "
Total length of tracks laid with steel rails,	58.46 "
[Weights per yard, 60, 64 and 72 pounds.]	
Total miles of road operated by this company,	46.60 "
Total miles of road operated by this company in Massachusetts,	46.60 "
Number of stations in Massachusetts on all roads operated by this company,	15
Number of telegraph offices in same,	13
Same in Massachusetts,	15

GENERAL INFORMATION.

Highway and Railroad Crossings in Massachusetts on Miles of Road owned.

Number of crossings of highways at grade:	
Stockbridge & Pittsfield Railroad,	22
Berkshire Railroad,	27
West Stockbridge Railroad,	4
Number of crossings of highways over railroad,	4
Number of crossings of highways under railroad,	6
Number of highway bridges less than 18 feet above track,	3
Height of lowest bridge above the rail,	14½ feet.
Number of crossings at which gates or flagman are maintained, Stockbridge & Pittsfield Railroad.	1
Number of crossings at which there are neither signals nor flagman,	52
Stockbridge & Pittsfield Railroad,	21
Berkshire Railroad,	27
West Stockbridge Railroad,	4

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL (IN MASSACHUSETTS).		FROM THEIR OWN MISCONDUCT OR CARELESSNESS (IN MASSACHUSETTS).		TOTAL IN MASSACHUSETTS.		TOTAL ON WHOLE ROAD OPERATED.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	-	-	-	-	-	-	-
Employees,	-	-	-	-	-	-	-	1
Others,	-	-	1	-	-	-	2	4
TOTAL,	-	-	1	-	1	-	2	5

STATEMENT OF EACH ACCIDENT IN MASSACHUSETTS.

Passenger train No. 21, due to leave Bridgeport at 4.30 P.M., Saturday, June 14, 1890, struck and killed Barney McCormack, a resident of Sheffield, a short distance from that station. He was intoxicated when struck. The remains were taken to Sheffield, and Medical Examiner Camp was notified.

NAME AND RESIDENCE OF OFFICERS.

W. H. Starbuck, *President*, 22 William Street, New York, N. Y. W. H. Stevenson, *Vice-President and General Manager*, Bridgeport, Conn. Simeon E. Baldwin, *General Counsel*, New Haven, Conn. R. J. Bestor, *Auditor*, Bridgeport, Conn. W. K. Lyon, *Superintendent*, Bridgeport, Conn. H. C. Cogswell, *General Freight Agent*, Bridgeport, Conn. A. W. Perrin, *General Passenger Agent*, Bridgeport, Conn. M. E. Stone, *Treasurer*, Bridgeport, Conn. C. E. Robinson, *Assistant Treasurer*, Bridgeport, Conn.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

W. H. Starbuck, New York, N. Y. Henry Hentz, New York, N. Y. John L. Macaulay, New York, N. Y. Thomas Rutter, New York, N. Y. W. H. Stevenson, Bridgeport, Conn. A. B. Mygatt, New Milford, Conn. S. E. Merwin, New Haven, Conn. W. E. Downs, Birmingham, Conn. Ph. C. Lounsbury, Ridgefield, Conn.

PROPER ADDRESS OF THE COMPANY.

THE HOUSATONIC RAILROAD COMPANY,
BRIDGEPORT, CONN.

W. H. STEVENSON,
Director.
C. E. ROBINSON,
Assistant Treasurer.
W. K. LYON,
Superintendent.

STATE OF CONNECTICUT.

FAIRFIELD, SS. BRIDGEPORT, Sept. 22, 1890. Then personally appeared W. H. Stevenson, Director, C. E. Robinson, Assistant Treasurer, and W. K. Lyon, Superintendent Housatonic Railroad Company, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

A. J. PORTER,
Notary Public.

REPORT

OF THE

CAPE COD SHIP CANAL COMPANY,

For the Year ending June 30, 1890.

To the Board of Railroad Commissioners of the Commonwealth of Massachusetts.

The Cape Cod Ship Canal Company respectfully submits the following report for the year ending June 30, 1890: —

The construction of the canal has been continued under the contract referred to in the previous annual reports, and the contractor has been credited with the work done, pursuant to the terms of the contract.

The company's engineer reports that during the last year 53,000 cubic yards of the canal has been excavated.

The following disbursements have been made by the company, the money having been received from the contractor, in pursuance of the contract: —

Office rent,	$48 00
Right of way,	870 00
Salaries of officers (including engineer),	2,900 00
Legal expenses,	500 00
Printing and incidentals,	263 00
TOTAL,	$4,581 00

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

W. A. Clark, Jr., Lynn, Mass. Samuel Fessenden, Sandwich, Mass. William A. French, Boston, Mass. Edwin Reed, Cambridge, Mass. Sidney Dillon, New York, N. Y. Thomas Rutter, New York, N. Y. Charles C. Dodge, New York, N. Y.

OFFICERS OF THE COMPANY.

W. A. Clark, Jr., *President.* Samuel Fessenden, *Treasurer.* Willard Howland, *Clerk.*

PROPER ADDRESS OF THE COMPANY.

CAPE COD SHIP CANAL COMPANY,

SANDWICH, MASS.

W. A. CLARK, JR.,
WM. A. FRENCH,
CHARLES C. DODGE,
SAM'L FESSENDEN,
Directors.

SAM'L FESSENDEN,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. On the thirteenth day of October, 1890, personally appeared before me William A. Clark, Jr., and William A. French, who, being by me duly sworn, made oath that the statement by them subscribed is true to the best of their knowledge and belief.

WILLARD HOWLAND,
Notary Public.

STATE OF NEW YORK.

CITY AND COUNTY OF NEW YORK, ss. On this seventeenth day of October, 1890, personally appeared before me Chas. C. Dodge of New York, and Sam'l Fessenden of Sandwich, Mass., who, being by me duly sworn, made oath that the statement herein subscribed is true to the best of their knowledge and belief.

RICHARD C. SHIMEALL,
Notary Public.

STREET RAILWAY RETURNS.

REPORT

OF THE

ALBANY STREET FREIGHT RAILWAY COMPANY,

FOR THE YEAR ENDING SEPT. 30, 1890.

[Used only for the transportation of freight.]

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$75,000 00	
Capital stock authorized by votes of company,	50,000 00	
Capital stock paid (par value of shares, $100),		$50,000 00
Number of stockholders,	8	
Debt.		
Unfunded debt, as follows:		
Notes payable,		$2,000 00
Total Gross Debt,		$2,000 00
Amount of cash assets, viz.,		1,698 20
Cash,	$1,642 20	
Debit balances,	56 00	
Net Debt,		$301 80
Permanent Investments.		
Railway.		
Total Cost of Construction,		$49,066 29
Cash assets,		1,698 20
Total Property and Assets of Company,		$50,764 49
Revenue for the Year.		
Total Income from All Sources (transporting freight),		$383 00
Expenses of Operating for the Year.		
Repairs of road-bed and track,		$1,542 35
Taxes, State and local,		222 90
Office expenses, and all other expenses not included above,		29 58
Total Expenses of Operating,		$1,794 83
Net Income, Dividends, etc.		
Total Net Deficit above Operating Expenses,		$1,411 83
Balance for the year, or deficit,		1,411 83
Surplus at commencement of year,	$167 64	
Add:		
Interest on bank balance,	8 68	
Surplus at commencement of year, as changed by aforesaid entries,		176 32
Total Deficit Sept. 30, 1890,		$1,235 51

General Balance Sheet Sept. 30, 1890.

ASSETS.	
Construction,	$49,066 29
Cash and cash assets,	1,698 20
Profit and Loss,	1,235 51
TOTAL ASSETS,	$52,000 00
LIABILITIES.	
Capital stock,	$50,000 00
Unfunded debt,	2,000 00
TOTAL LIABILITIES,	$52,000 00

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To expenses,	$1,794 83
	$1,794 83
CR.	
By balance Sept. 30, 1889,	$167 64
total income,	383 00
interest bank balance,	8 68
balance carried forward Sept. 30, 1890,	1,235 51
	$1,794 83

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	.856 mile.
Aggregate length of switches, sidings, etc.,	.076 "
Total length of track, measured as single track,	.932 "
Total length of track paved,	.932 "
Weight of rail per yard, and description of rail: T, 90 pounds.	
Description of the several lines or routes operated by the company:	
On Albany Street from Brookline to Lehigh streets.	
On Lehigh Street to yard Boston & Albany Railroad.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	.856 "

PROPER ADDRESS OF THE COMPANY.

ALBANY STREET FREIGHT RAILWAY COMPANY,
81 MILK STREET, BOSTON, MASS.

NAME AND RESIDENCE OF OFFICERS.

Henry M. Whitney, *President*, Brookline, Mass. Joseph H. Goodspeed, *Treasurer*, Boston, Mass. Prentiss Cummings, *Clerk of Corporation*, Brookline, Mass.

Name and Residence of Directors last elected.

Henry M. Whitney, Brookline, Mass. Prentiss Cummings, Brookline, Mass. Edmund Reardon, Cambridge, Mass. Frank H. Monks, Brookline, Mass. G. D. Braman, Cohasset, Mass.

HENRY M. WHITNEY,
EDMUND REARDON,
FRANK H. MONKS,
Directors.

JOSEPH H. GOODSPEED,
Treasurer.

Commonwealth of Masssachusetts.

Suffolk, ss. Boston, Nov. 4, 1890. Then personally appeared said Henry M. Whitney, Edmund Reardon, Frank H. Monks and Joseph H. Goodspeed, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

PRENTISS CUMMINGS,
Justice of the Peace.

REPORT

OF THE

ATTLEBOROUGH, NORTH ATTLEBOROUGH & WRENTHAM STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

[Operated by electricity.]

CAPITAL STOCK AND DEBT.

Capital Stock.

Capital stock authorized by charter,	$60,000 00	
Capital stock authorized by votes of company,	60,000 00	
Capital stock paid (par value of shares, $100),		$60,000 00
Number of stockholders,	18	

Debt.

Funded debt, as follows:		
First mortgage bonds due in 20 years, rate of interest 5 per cent.,		$50,000 00
Unfunded debt, as follows,		8,872 20
Open accounts,	$8,872 20	
Total Gross Debt,		$58,872 20
Amount of cash assets, viz.,		7,426 71
Cash,	$640 46	
Supplies,	386 25	
Notes receivable,	6,400 00	
Net Debt,		$51,445 49

Permanent Investments.

Railway.

Total Cost of Construction,	$65,051 68

Equipment.

Horses,	$566 30
Cars,	11,095 53
Other articles of equipment,	34,295 46
Total Cost of Equipment,	$45,957 29

Land and Buildings.

Land owned by company needed in operating road,	$600 00
Buildings owned by company needed in operating road,	4,085 23
Total Cost of Land and Buildings,	$4,685 23
Total Amount of Permanent Investments,	$115,694 20
Cash assets,	7,426 71
Total Property and Assets of Company,	$123,120 91

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks,	$65,051 68
New horses,	566 30
New cars,	11,095 53
Other equipment,	34,295 46
Land and buildings,	4,685 23
TOTAL ADDITION TO PROPERTY,*	$115,694 20

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,	$23,084 60
Income from other sources,	131 02
TOTAL INCOME FROM ALL SOURCES,	$23,215 62

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$171 11
Repairs of cars and other vehicles,	1,287 66
Repairs of buildings,	86 47
Wages and salaries of president, treasurer, superintendent and their clerks,	1,172 66
Wages and salaries of all other persons employed in operating the road,	5,698 93
Taxes, State and local,	326 34
Insurance,	250 00
Damages for injuries to persons and property,	5 00
Office expenses, and all other expenses not included above,	3,968 74
TOTAL EXPENSES OF OPERATING,	$12,966 91

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$10,248 71
Interest accrued during the year,	1,041 65
Dividends declared (10 per cent. for the year),	6,000 00
Balance for the year, or surplus,	3,207 06
TOTAL SURPLUS SEPT. 30, 1890,	3,207 06

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	1
Open cars,	4
Horses,	1
Other articles of equipment: One leveller, 1 snow-plough, 1 tip cart, 1 tower-wagon, 1 express wagon.	
Number of box cars fitted with electric motors,	4
Number of open cars fitted with electric motors,	3

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$65,051 68
Equipment,	45,957 29
Land and buildings,	4,685 23
Cash and cash assets,	7,426 71
TOTAL ASSETS,	$123,120 91

---

* Built during the year.

LIABILITIES.

Capital stock,	$60,000 00
Funded debt,	50,000 00
Unfunded debt,	8,872 20
Surplus,	3,207 06
Interest due and accrued,	1,041 65
TOTAL LIABILITIES,	$123,120 91

Copy of Profit and Loss Account for the Year Ending Sept. 30, 1890.

DR.

To expenses,	$12,966 91
interest,	1,041 65
dividends,	6,000 00
balance carried forward Sept. 30, 1890,	3,207 06
	$23,215 62

CR.

By total income,	$23,215 62
	$23,215 62

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	6 miles.
Aggregate length of switches, sidings, etc.,	.360 mile.
Total length of track, measured as single track,	6.360 miles.
Total length of track paved,	2 "
Weight of rail per yard, and description of rail: T, steel rail; 40 pounds.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	6 "

MILES RUN, ETC.

Total number of miles run during the year,	92,400
Total number of passengers carried in the cars,	465,713
Total number of round trips for the year,	7,702
Number of persons regularly employed by company,	14
Rates of fare,	5 cents.

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL.		FROM THEIR OWN MISCONDUCT OR CARELESSNESS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	–	–	1	1	1	1
Employees,	–	–	–	–	–	–
Others,	–	–	–	–	–	–

STATEMENT OF EACH ACCIDENT.

Passenger under influence of liquor, scuffling with companions, fell off motor car; the tow car ran against him and injured spine and back; afterwards died.

Person wished to get on car without being noticed, ran out of darkness; jumped onto rear of motor car while in motion, fell from step, and tow car ran over his head killing him instantly.

How many miles of track, taken as single track, did this company operate by electricity on the thirteenth day of September, 1890? Six miles.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse cars. Electricity.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Thomson-Houston system. Single trolley.

Average speed of the electric cars operated by your company, where not impeded by horse cars. Nine miles per hour.

PROPER ADDRESS OF THE COMPANY.

ATTLEBOROUGH, NORTH ATTLEBOROUGH & WRENTHAM STREET RAILWAY COMPANY,
180 SUMMER STREET, BOSTON, MASS.

NAME AND RESIDENCE OF OFFICERS.

Winthrop Coffin, *President*, Boston, Mass. George A. Murch, *Superintendent*, Attleborough, Mass. Alfred A. Glasier, *Treasurer and Clerk of Corporation*, Boston, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Winthrop Coffin, Boston, Mass. W. B. Ferguson, Boston, Mass. Peter Nerney, Attleborough, Mass. J. E. Draper, Attleborough, Mass. Geo. W. Mansfield, Melrose, Mass. George Demarest, Plainville, Mass. Homer M. Daggett, Jr., Attleborough, Mass.

WINTHROP COFFIN,
PETER NERNEY,
J. E. DRAPER,
GEO. DEMAREST,
H. M. DAGGETT, JR.,
GEO. W. MANSFIELD,
WILLARD B. FERGUSON,
Directors.

ALFRED A. GLASIER,
Treasurer.

GEO. A. MURCH,
Superintendent.

Commonwealth of Massachusetts.

Bristol, ss. Oct. 27, 1890. Then personally appeared Peter Nerney, J. E. Draper, Geo. Demarest and Geo. A. Murch, above named, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

GEORGE A. ADAMS,
Justice of the Peace.

Commonwealth of Massachusetts.

Bristol, ss. Nov. 15, 1890. Then personally appeared the above-named Homer M. Daggett, Jr., and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief

Before me,
GEO. A. ADAMS,
Justice of the Peace.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Nov. 17, 1890. Personally appeared the above-named Winthrop Coffin, A. A. Glasier, W. B. Ferguson and G. W. Mansfield, and made oath that the foregoing statement by them subscribed is true, to the best of their knowledge and belief.

Before me,
S. G. CROSWELL,
Notary Public.

REPORT

OF THE

BROCKTON STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.

Capital Stock.

Capital stock authorized by charter,	$150,000 00	
Capital stock authorized by votes of company,	150,000 00	
Capital stock paid (par value of shares, $100),		$150,000 00
Number of stockholders,	71	

Debt.

Funded debt, as follows,		$150,000 00
Bonds due April 1, 1905, rate of interest 4½ per cent.,	$50,000 00	
Bonds due April 1, 1906, rate of interest 4½ per cent.,	50,000 00	
Bonds due April 1, 1910, rate of interest 4½ per cent.,	50,000 00	
Unfunded debt, as follows,		23,492 46
Unpaid coupons,	$3,397 50	
Sundry accounts,	20,094 96	
Total Gross Debt,		$173,492 46
Amount of cash assets, viz.,		26,886 64
Cash,	$16,694 19	
Supplies,	9,137 76	
Debit balances,	1,054 69	
Net Debt,		$146,605 82

Permanent Investments.

Railway.

Total Cost of Construction,	$213,388 45

Equipment.

Horses,	$25,060 00
Cars,	26,411 23
Other articles of equipment,	9,761 73
Total Cost of Equipment,	$61,232 96

Land and Buildings.

Land and buildings owned by company needed in operating road,	$38,712 03
Total Cost of Land and Buildings,	$38,712 03
Total Amount of Permanent Investments,	$313,333 44
Cash assets,	26,886 64
Total Property and Assets of Company,	$340,220 08

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks ($11,597\frac{8}{10}$ feet, and granite block paving 22,484½ feet),	$34,052 66
New horses (number, 33),	4,620 00
New cars (number, 4),	2,718 60
Other equipment,	746 20
Land and buildings,	1,859 85
TOTAL ADDITION TO PROPERTY,	$43,997 31

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$89,949 40
Received from other railways as tolls or rent,		5 73
Received from sales of manure,		792 02
TOTAL EARNINGS,		$90,747 15
Income from other sources,		535 66
Advertising in the cars,	$300 00	
Rents,	235 66	
TOTAL INCOME FROM ALL SOURCES,		$91,282 81

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$8,335 82
Repairs of cars and other vehicles, harness and horse-shoeing,	3,909 85
Repairs of buildings,	130 32
Renewal of horses,	874 50
Wages and salaries of president, treasurer, superintendent and their clerks,	3,595 68
Wages and salaries of all other persons employed in operating the road,	32,203 80
Provender,	13,679 26
Taxes, State and local,	2,499 08
Insurance,	1,137 74
Damages for injuries to persons and property,	63 00
Office expenses, and all other expenses not included above,	2,163 61
TOTAL EXPENSES OF OPERATING,	$68,592 56

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$22,690 25
Interest accrued during the year,	4,828 42
Dividends declared, 10 per cent. for the year,	15,000 00
Balance for the year, or surplus,	2,861 83
Surplus at commencement of year,	13,865 79
TOTAL SURPLUS SEPT. 30, 1890,	$16,727 62

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	18
Open cars,	21
Horses,	179
Harnesses (pairs of),	36

Other articles of equipment:

Five snow-ploughs, 2 levellers, 1 sand-car, 6 sets track scrapers, 1 single cart, 1 double cart, 1 grain or hay wagon, 1 Concord wagon, 1 top buggy, 2 sets team harnesses, 1 car harness, 1 carriage harness, collars, blankets, surcingles and halters, car poles, eveners and lead bars, horse power and 3 hay cutters, 3 platform scales, stable tools, track tools, office furniture, etc.

General Balance Sheet Sept. 30, 1890.

Assets.	
Construction,	$213,388 45
Equipment,	61,232 96
Land and buildings,	38,712 03
Cash and cash assets,	26,886 64
TOTAL ASSETS,	$340,220 08
Liabilities.	
Capital stock,	$150,000 00
Funded debt,	150,000 00
Unfunded debt,	23,492 46
Surplus,	16,727 62
TOTAL LIABILITIES,	$340,220 08

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

Dr.	
To expenses,	$68,592 56
interest,	4,828 42
dividends,	15,000 00
balance carried forward Sept. 30, 1890,	16,727 62
	$105,148 60
Cr.	
By balance Sept. 30, 1889,	$13,865 79
total income,	91,282 81
	$105,148 60

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	12.755 miles.
Aggregate length of switches, sidings, etc.,	.903 mile.
Total length of track, measured as single track,	13.658 miles.
Total length of track paved,	13.658 "

Weight of rail per yard, and description of rail: One and one-half miles, 40 pounds, T rail; 4 miles, 45 pounds, T rail; balance, 35 pounds, tram rail.

Description of the several lines or routes operated by the company:

Main Street Line.

Commences on Main Street at West Bridgewater line, running thence northerly through Main Street (double track) to Pleasant Street, thence northerly on Main Street (single track) to the Avon line, thence northerly on West Main Street and Main Street through the town of Avon to the Randolph line.

Belmont and Pleasant Street Line.

Commences on Belmont Street at West Street, thence easterly (double track) to Main Street, from Main (single track) to School, Lincoln, Montello, up Centre to Main Street, thence westerly on Pleasant Street to West Street.

Total length of railway, measured as single track, not including sidings, etc., operated by this company,	12.755 miles.
MILES RUN, ETC.	
Total number of miles run during the year,	342,513
Total number of passengers carried in the cars,	1,951,197
Total number of round trips for the year,	44,271
Number of persons regularly employed by company,	70
Rates of fare,	5 cents.

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL.		FROM THEIR OWN MISCONDUCT OR CARELESSNESS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	-	-	-	-	-
Employees,	-	-	-	1	-	1
Others,	-	-	-	1	-	1

STATEMENT OF EACH ACCIDENT.

February 10, 1890. Man injured by being thrown by his horse in front of moving car.

March 1. Employee attempted to board moving car and fell.

PROPER ADDRESS OF THE COMPANY.

BROCKTON STREET RAILWAY COMPANY,
CAMPELLO, MASS.

NAME AND RESIDENCE OF OFFICERS.

William W. Cross, *President*, Brockton, Mass. Horace B. Rogers, *Superintendent and Clerk of Corporation*, Campello, Mass. Clarence R. Fillebrown, *Treasurer*, Brockton, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

William W. Cross, Brockton, Mass. Asa P. Potter, Cohasset, Mass. Thomas Dana, Boston, Mass. Henry W. Robinson, Brockton, Mass. Horace B. Rogers, Campello, Mass.

WM. W. CROSS,
ASA P. POTTER,
H. W. ROBINSON,
HORACE B. ROGERS,
Directors.
C. R. FILLEBROWN,
Treasurer.
HORACE B. ROGERS,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. BOSTON, Nov. 4, 1890. Then personally appeared Wm. W. Cross, Henry W. Robinson and Asa P. Potter, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

CHARLES F. KELLOGG,
Notary Public.

COMMONWEALTH OF MASSACHUSETTS.

PLYMOUTH, ss. BROCKTON, Nov. 4, 1890. Then personally appeared Horace B. Rogers and Clarence R. Fillebrown, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

WILLIAM M. THOMPSON,
Justice of the Peace.

REPORT

OF THE

BEVERLY & DANVERS STREET RAILWAY COMPANY,

FOR THE YEAR ENDING SEPT. 30, 1890.

CAPITAL STOCK AND DEBT.

CAPITAL STOCK.

Capital stock authorized by charter,	$12,000 00	
Capital stock authorized by votes of company,	25,000 00	
Capital stock paid (par value of shares, $100),		$12,000 00
Number of stockholders,	37	

DEBT.

Unfunded debt, as follows,		$11,432 77
Notes,	$10,500 00	
Accounts,	932 77	
TOTAL GROSS DEBT,		$11,432 77
Amount of cash assets, viz.,		833 30
Cash,	$339 90	
Debit balances,	493 40	
NET DEBT,		$10,599 47

PERMANENT INVESTMENTS.

RAILWAY.

Grading and paving,	$4,617 52	
Track, including timber, rails, etc., and laying,	14,608 24	
Interest during construction, commissions, discounts, etc.	431 82	
Engineering, agencies, salaries and other expenses during construction,	357 67	
TOTAL COST OF CONSTRUCTION,		$20,015 25

LAND AND BUILDINGS.

Land owned by company needed in operating road,	$777 00
Buildings owned by company needed in operating road,	2,202 22
TOTAL COST OF LAND AND BUILDINGS,	$2,972 22
TOTAL AMOUNT OF PERMANENT INVESTMENTS,	$22,994 47
Cash assets,	833 30
TOTAL PROPERTY AND ASSETS OF COMPANY,	$23,827 77

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Land and buildings,	$748 17
TOTAL ADDITION TO PROPERTY,	748 17

REVENUE FOR THE YEAR.

Income from other sources:		
Contractor for lease of road,	$660 00	
TOTAL INCOME FROM ALL SOURCES,		$660 00

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$660 00
Interest accrued during the year,	265 00
Balance for the year, or surplus,	395 00
TOTAL SURPLUS SEPT. 30, 1890,	$395 00

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$20,015 25
Land and buildings,	2,979 22
Cash and cash assets,	833 30
TOTAL ASSETS,	$23,827 77

LIABILITIES.

Capital stock,	$12,000 00
Unfunded debt,	11,432 77
Surplus,	395 00
TOTAL LIABILITIES,	$23,827 77

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.

To interest,	$265 00
balance carried forward Sept. 30, 1890,	395 00
	$660 00

CR.

By total income,	$660 00
	$660 00

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	3.09 miles.
Aggregate length of switches, sidings, etc.,	.12 mile.
Total length of track, measured as single track,	3.21 miles.
Total length of track paved,	.09 mile.
Weight of rail per yard, and description of rail: 40 pounds, T.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	3.09 miles.

STATEMENT.

The Beverly & Danvers Street Railway Company owns only its roadway, land and buildings, and a few articles of minor equipment, tools, etc.

The road is operated under a contract, by which the contractor furnishes the equipment, runs the road and takes the receipts, paying a specified percentage on the stock and debt.

While it might be possible to furnish the cost of operation, the figures would be useless for comparison, and certainly misleading, notwithstanding every effort to make them clear.

The small equipment, two cars, appeared sufficient for the amount of travel to be expected; but a very much larger one could have been run with the power plant now in place, at a relatively lower cost of operating, and unquestionably so low as to make a statement entirely satisfactory.

The experience of the late summer showed the necessity for such additional equipment, which has been ordered; it will very soon be on the road and in operation.

The power plant has capacity for six cars; but one has been in continuous operation, the other only in use when the travel was exceptionally heavy, as has been frequently the case, especially on Sundays and holidays.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890? Three and nine one-hundredths miles.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse-cars. Electricity only.

If storage batteries are used, give the name of the storage battery. Union Electric Car Company's system, using various makes of battery — during the past year mostly those of "The Accumulator Company."

PROPER ADDRESS OF THE COMPANY,

BEVERLY & DANVERS STREET RAILWAY COMPANY,
BEVERLY, MASS.

NAME AND RESIDENCE OF OFFICERS.

John I. Baker, *President*, Beverly, Mass. John S. Baker, *Superintendent and Clerk of Corporation*, Beverly, Mass. Peter E. Clark, *Treasurer*, Beverly, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

John I. Baker, Beverly, Mass. Peter E. Clark, Beverly, Mass. Calvin Putnam, Danvers, Mass. Gilbert A. Tapley, Danvers, Mass. Sam'l J.

Foster, Beverly, Mass. Chas. W. Emerson, Beverly, Mass. Sidney W. Winslow, Beverly, Mass. Henry W. Foster, Beverly, Mass. Perry Collier, Beverly, Mass.

JOHN I. BAKER,
PETER E. CLARK,
PERRY COLLIER,
SAMUEL J. FOSTER,
SIDNEY W. WINSLOW,
Directors.
PETER E. CLARK,
Treasurer.
JOHN S. BAKER,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

ESSEX, ss., Nov. 5, 1890. Then personally appeared Peter E. Clark, Perry Collier, Samuel J. Foster, Sidney W. Winslow, with Peter E. Clark, treasurer, and John S. Baker, superintendent, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

JOHN I. BAKER,
Justice of the Peace.

COMMONWEALTH OF MASSACHUSETTS.

And John I. Baker, director, also made oath to the truth of the foregoing, according to his best knowledge and belief.

Before me,

WILLIAM H. LOVETT,
Justice of the Peace.

REPORT

OF THE

BOSTON & CHELSEA RAILROAD COMPANY,

FOR THE YEAR ENDING SEPT. 30, 1890.

[This road is leased to the West End Street Railway Company, and is operated by the Lynn & Boston Railroad Company.]

CAPITAL STOCK AND DEBT.

CAPITAL STOCK.

Capital stock authorized by charter,	$300,000 00	
Capital stock authorized by votes of company,	121,000 00	
Capital stock paid (par value of shares, $50),		$121,000 00
Number of stockholders,	96	

PERMANENT INVESTMENTS.

RAILWAY.

TOTAL COST OF CONSTRUCTION,		$121,000 00
TOTAL PROPERTY AND ASSETS OF COMPANY,		$121,000 00

REVENUE FOR THE YEAR.

Received from other railways as tolls or rent,		$7,260 00
West End Street Railway Company,	$7,260 00	
TOTAL INCOME FROM ALL SOURCES,		$7,260 00

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$7,260 00
Dividends declared (6 per cent. for the year),	7,260 00

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$121,000 00
TOTAL ASSETS,	$121,000 00

LIABILITIES.

Capital stock,	$121,000 00
TOTAL LIABILITIES,	$121,000 00

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.

To dividends,	$7,260 00
	$7,260 00

Cr.	
By total income, ...	$7,260 00
	$7,260 00

Description of Railway.	
Length of railway owned by company, measured as a single track, exclusive of sidings, ...	4.116 miles.
Aggregate length of switches, sidings, etc., ...	.038 mile.
Total length of track, measured as single track, . . .	4.154 miles.

Proper Address of the Company.

BOSTON & CHELSEA RAILROAD COMPANY,
81 Milk Street, Room 38, Boston, Mass.

Name and Residence of Officers.

W. W. Wheildon, *President*, Concord, Mass. John H. Studley, Jr., *Treasurer and Clerk of Corporation*, Malden, Mass.

Name and Residence of Directors last elected.

W. W. Wheildon, Concord, Mass. George M. Brooks, Concord, Mass. Wm. G. Wheildon, Melrose, Mass. Reuben E. Demmon, Boston, Mass. T. Quincy Browne, Boston, Mass. Charles E. Powers, Boston, Mass. Benj. H. Dewing, Revere, Mass.

WM. W. WHEILDON,
WM. G. WHEILDON,
CHAS. E. POWERS,
T. QUINCY BROWNE,
REUBEN E. DEMMON,
Directors.
JOHN H. STUDLEY, Jr.,
Treasurer.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Oct. 31, 1890. Then personally appeared Wm. G. Wheildon, Chas. E. Powers, T. Quincy Browne, Reuben E. Demmon and John H. Studley, Jr., and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

ALFRED W. CARR,
Justice of the Peace.

Commonwealth of Massachusetts.

Suffolk, ss. Nov. 1, 1890. Then personally appeared Wm. W. Wheildon, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

HENRY F. WOODS,
Justice of the Peace.

REPORT

OF THE

BOSTON & REVERE ELECTRIC STREET RAILWAY COMPANY,

FOR THE YEAR ENDING SEPT. 30, 1890.

[Operated by electricity.]

CAPITAL STOCK AND DEBT.

Capital Stock.		
Capital stock authorized by charter,	$30,000 00	
Capital stock authorized by votes of company,	50,000 00	
Capital stock paid (par value of shares, $100),		$50,000 00
Number of stockholders,	8	
Debt.		
Funded debt, as follows,		$25,000 00
Authorized issue,	$50,000 00	
Total issue to date,	25,000 00	
First mortgage bonds due in 20 years, rate of interest 5 per cent , dated Feb. 1, 1890, interest payable February 1 and August 1.		
Unfunded debt, as follows,		14,084 81
Thomson-Houston Electric Company,	$5,484 00	
Notes outstanding,	8,600 00	
TOTAL GROSS DEBT,		$39,084 81
Amount of cash assets, viz.,		4,953 74
Cash,	$1,053 74	
Supplies,	275 00	
Cash assets,	3,625 00	
NET DEBT,		$34,131 07
PERMANENT INVESTMENTS.		
Railway.		
Road-bed, superstructure, rails, overhead construction wire, poles and electric construction,		$62,443 13
Engineering, agencies, salaries and other expenses during construction,		7,912 50
TOTAL COST OF CONSTRUCTION,		$70,355 63
Equipment.		
Cars and car appliances, and other articles of equipment,		$9,810 00
Land and Buildings.		
Land and buildings owned by company needed in operating road,		$4,844 60
TOTAL COST OF LAND AND BUILDINGS,		$4,884 60

TOTAL AMOUNT OF PERMANENT INVESTMENTS,	$85,050 23
Cash assets,	4,953 74
TOTAL PROPERTY AND ASSETS OF COMPANY,	$90,003 97

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Road-bed, superstructures, rails, etc.,	$101 89
Engineering agencies and other expenses,	2,500 00
Other equipment (cars, $1,760; car appliances, $90; miscellaneous, $300),	2,150 00
Land and buildings and fixtures,	468 42
TOTAL ADDITION TO PROPERTY,	$5,220 31

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,	$6,908 97
TOTAL INCOME FROM ALL SOURCES,	$6,908 97

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	238 79
Repairs of cars,	162 13
Repairs of buildings and fixtures,	19 43
Repairs electric equipment,	293 92
Wages and salaries of president, treasurer, superintendent and their clerks,	374 21
Wages and salaries of all other persons employed in operating the road,	1,186 42
Oil and waste,	79 69
Taxes, State and local,	148 51
Hire of power,	1,122 10
Legal expenses,	130 60
Use of double motor trucks for season,	300 00
Insurance,	127 49
Damages for injuries to persons and property,	318 65
Office expenses, and all other expenses not included above,	713 47
TOTAL EXPENSES OF OPERATING,	$5,215 41

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$1,693 56
Interest accrued during the year,	1,286 55
Balance for the year, or surplus,	407 01
Surplus at commencement of year,	512 15
TOTAL SURPLUS SEPT. 30, 1890,	$919 16

INVENTORY OF EQUIPMENT Sept. 30, 1890.

Open cars,	9
Other articles of equipment: One tower car, one construction car, extra electrical equipment, tools used in car and road repairs, fish plates, spikes, and other small items of supplies, oil waste and other items used in operation of road.	
Number of open cars fitted with electric motors,	5

General Balance Sheet Sept. 30, 1890.

ASSETS.	
Construction,	$70,355 63
Equipment,	9,810 00
Land and buildings,	4,844 60
Cash and cash assets,	4,953 74
TOTAL ASSETS,	$90,003 97
LIABILITIES.	
Capital stock,	$50,000 00
Funded debt,	25,000 00
Unfunded debt,	14,084 81
Surplus,	919 16
TOTAL LIABILITIES,	$90,003 97

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To expenses,	$5,215 41
interest,	1,286 55
balance carried forward Sept. 30, 1890,	919 16
	$7,421 12
CR.	
By balance Sept. 30, 1889,	$512 15
total income,	6,908 97
	$7,421 12

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	3.80 miles.
Aggregate length of switches, sidings, etc.,	.43 mile.
Total length of track, measured as single track,	4.23 miles.
Total length of track paved,	.83 mile.
Weight of rail per yard and description of rail: T rail; 56 pounds per yard.	
Description of the several lines or routes operated by the company:	
From Centennial Avenue, Crescent Beach, to Winthrop Junction, and from Centennial Avenue, Crescent Beach, to Ocean Pier.	
This road is operated only in the summer months, balance of year and on rainy days the road is not operated.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	3.80 miles.

MILES RUN, ETC.

Total number of miles run during the year,	45,653 miles.
Total number of passengers carried in the cars,	138,597 "
Total number of round trips for the year (motors, 5,207; tows, 800),	6,007 "
Number of persons regularly employed by company,	13
Rates of fare,	5 and 3 cents.
Crescent Beach to Winthrop Junction,	5 cents.
Crescent Beach to Ocean Pier,	3 "

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL.		FROM THEIR OWN MISCONDUCT OR CARELESSNESS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	-	-	-	-	-
Employees,	-	-	-	-	-	-
Others,	-	-	1	-	1	-

STATEMENT OF EACH ACCIDENT.

July 15. — Woman was sitting on rails between tracks on bridge at foot of hill of 7 degree grade, 1,000 feet long, at 11 o'clock P. M., with object of suicide, or intoxicated, as an empty whiskey bottle was found on her person. She was struck by motor car and knocked over into marsh, killing her instantly. The night was very dark and the woman was not seen until almost upon her, — too late to stop motor car.

How many miles of track, taken as single track, did this company operate by electricity on the thirteenth day of September, 1890? Three and eight-tenths miles.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse-cars. Solely by electricity.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Thomson-Houston; overhead system; single trolley.

Average speed of the electric cars operated by your company, where not impeded by horse cars. Twelve miles per hour.

PROPER ADDRESS OF THE COMPANY.

BOSTON & REVERE ELECTRIC STREET RAILWAY COMPANY,
82 DEVONSHIRE STREET, BOSTON, MASS.

NAME AND RESIDENCE OF OFFICERS.

Washington G. Benedict, *President and Manager*, Boston, Mass. Ellery I. Garfield, *Treasurer and Clerk of Corporation*, Lexington, Mass.

Name and Residence of Directors last elected.

Charles A. Coffin, Lynn, Mass. Washington G. Benedict, Boston, Mass. Eugene Griffin, Boston, Mass. Nathaniel M. Jewett, Boston, Mass. Ellery I. Garfield, Lexington, Mass.

WASHINGTON G. BENEDICT,
E. I. GARFIELD,
C. A. COFFIN,
EUGENE GRIFFIN,
NATHANIEL M. JEWETT,
Directors.
E. I. GARFIELD,
Treasurer.
WASHINGTON G. BENEDICT,
President and Manager.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Oct. 27, 1890. Then personally appeared Charles A. Coffin, Washington G. Benedict, Eugene Griffin, Nathaniel M. Jewett, Ellery I. Garfield, directors, Washington G. Benedict, president and manager, and Ellery I. Garfield, treasurer and clerk of corporation, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

SIMON G. CROSWELL,
Justice of the Peace.

REPORT

OF THE

BLACK ROCKS & SALISBURY BEACH STREET RAILWAY COMPANY,

FOR THE YEAR ENDING SEPT. 30, 1890.

CAPITAL STOCK AND DEBT.

CAPITAL STOCK.

Capital stock authorized by charter,	$125,000 00	
Capital stock authorized by votes of company,	125,000 00	
Capital stock paid (par value of shares, $100),		$125,000 00
Number of stockholders,	30	

DEBT.

Funded debt, as follows:		
Plum Island Street Railway bonds due 1907, rate of interest 5 per cent.,	$40,000 00	
First mortgage bonds due 1909, rate of interest 5 per cent.,	65,000 00	
In the hands of company,	104,000 00	
Unfunded debt, as follows,		$121,236 02
Notes and bills,	121,236 02	
TOTAL GROSS DEBT,		$121,236 02
Amount of cash assets, viz.,		15,738 58
Cash,	$12,514 08	
Supplies,	1,750 00	
Debit balances,	1,474 50	
NET DEBT,		$105,497 44

PERMANENT INVESTMENTS.

RAILWAY.

Grading and paving,	$4,365 33
Track, including timber, rails, etc., and laying,	70,063 09
Interest during construction, commissions, discounts, etc.,	809 09
Engineering, agencies, salaries and other expenses during construction,	1,449 29
Plum Island Street Railway,	100,991 85
TOTAL COST OF CONSTRUCTION,	$177,678 65

EQUIPMENT.

Horses,	$12,473 00
Cars,	16,555 42
Other articles of equipment,	8,572 38
TOTAL COST OF EQUIPMENT,	$37,600 80

LAND AND BUILDINGS.

Land owned by company needed in operating road,	$15,000 00
Buildings owned by company needed in operating road,	16,384 74
TOTAL COST OF LAND AND BUILDINGS,	$31,384 74

TOTAL AMOUNT OF PERMANENT INVESTMENTS,	$246,664 19
Cash assets,	15,738 58
TOTAL PROPERTY AND ASSETS OF COMPANY,	$262,402 77

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks (number of feet, 18,480),	$22,002 61
New horses (number, 34),	5,149 50
New cars (number, 5),	4,695 78
Other equipment,	7,342 01
Land and buildings,	12,437 64
Plum Island Street Railway purchase,	100,991 85
TOTAL ADDITION TO PROPERTY,	$152,619 39

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,	$31,862 74
Received from sales of manure,	80 00
TOTAL EARNINGS,	$31,942 74
Income from other sources (rents),	2,165 52
TOTAL INCOME FROM ALL SOURCES,	$34,108 26

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$500 00
Repairs of cars and other vehicles, harness and horse-shoeing,	1,155 65
Wages and salaries of president, treasurer, superintendent and their clerks,	1,500 00
Wages and salaries of all other persons employed in operating the road,	8,023 98
Provender,	4,136 19
Taxes, State and local,	684 31
Water, $100; coal, $404.94,	504 94
Insurance,	560 21
Office expenses, and all other expenses not included above,	556 50
TOTAL EXPENSES OF OPERATING,	$17,621 78

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$16,486 48
Interest accrued during the year,	3,380 55
Divideuds declared (10 per cent. for the year),*	6,500 00
Balance for the year, or surplus,	6,605 93
Surplus at commencement of year,	9,560 82
TOTAL SURPLUS SEPT. 30, 1890,	$16,166 75

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box-cars,	7
Open cars,	27
Horses,	100
Harnesses (pairs of),	35
Other articles of equipment: Three carts, 2 Baldwin motors, 1 dummy engine, hand car, 2 baggage cars, 2 wagons, track tools.	

---

* On $65,000 capital stock.

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$177,678 65
Equipment,	37,600 80
Land and buildings,	31,384 74
Cash and cash assets,	15,738 58
TOTAL ASSETS,	$262,402 77

LIABILITIES.

Capital stock,	$125,000 00
Unfunded debt,	121,236 02
Surplus,	16,166 75
TOTAL LIABILITIES,	$262,402 77

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.

To expenses,	$17,621 78
interest,	3,380 55
dividends,	6,500 00
balance carried forward Sept. 30, 1890,	16,166 75
	$43,669 08

CR.

By balance Sept. 30, 1889,	$9,560 82
total income,	34,108 26
	$43,669 08

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	21 miles.
Aggregate length of switches, sidings, etc.,	.20 mile.
Total length of track, measured as single track,	21.20 miles.
Total length of track paved,	2 "

Weight of rail per yard, and description of rail: 35 and 40 pounds T, and Johnson.

Description of the several lines or routes operated by the company:

Commencing at Plum Island, extending through Water and Merrimac streets in Newburyport to East Salisbury, thence to Salisbury Beach, thence along Salisbury Beach to New Hampshire line, thence from East Salisbury to Amesbury, and also from East Salisbury to Seabrook, New Hampshire, thence from Merrimac River to Salisbury.

Total length of railway, measured as single track, not including sidings, etc., operated by this company,	21 miles.

MILES RUN, ETC.

Total number of miles run during the year,	94,250
Total number of passengers carried in the cars,	340,000
Total number of round trips for the year,	7,854
Number of persons regularly employed by company,	30
Rates of fare,	5, 10, 15, 20 cts.

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL.		FROM THEIR OWN MISCONDUCT OR CARELESSNESS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, ...	–	–	–	1	–	1
Employees, ...	–	–	–	–	–	–
Others, ...	–	–	–	–	–	–

STATEMENT OF EACH ACCIDENT.

A lady stepped from the cars while in motion and hurt her hip.

PROPER ADDRESS OF THE COMPANY.

BLACK ROCKS & SALISBURY BEACH STREET RAILWAY COMPANY,
NEWBURYPORT, MASS.

NAME AND RESIDENCE OF OFFICERS.

E. P. Shaw, *President, Superintendent, and General Manager*, Newburyport, Mass. George Tilton, *Treasurer and Clerk of Corporation*, Newburyport, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

E. P. Shaw, Newburyport, Mass. J. Frank Tilton, Newburyport, Mass. George Tilton, Newburyport, Mass. Charles H. Brown, Newburyport, Mass. W. B. Ferguson, Malden, Mass.

EDWARD P. SHAW,
CHAS. H. BROWN,
J. FRANK TILTON,
Directors.
GEORGE TILTON,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

ESSEX, ss. Oct. 13, 1890. Then personally appeared Edward P. Shaw, Chas. H. Brown and J. Frank Tilton, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

HORACE I. BARTLETT,
Justice of the Peace.

REPORT

OF THE

EAST MIDDLESEX STREET RAILWAY COMPANY,

For the Year Ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$300,000 00	
Capital stock authorized by votes of company,	200,000 00	
Capital stock paid (par value of shares, $100),		$200,000 00
Number of stockholders,	56	
Debt.		
Funded debt, as follows,		$125,000 00
Plain bonds due September, 1898, rate of interest, 6 per cent.,	$125,000 00	
Unfunded debt, as follows,		49,367 86
Notes payable,	45,000 00	
Sundry open accounts,	4,367 86	
Total Gross Debt,		$174,367 86
Amount of cash assets, viz.,		7,746 74
Cash,	$2,148 34	
Supplies,	2,978 96	
Debit balances,	2,619 44	
Net Debt,		$166,621 12
Permanent Investments.		
Railway.		
Total Cost of Construction,		$225,496 99
Equipment.		
Horses,		$32,013 00
Cars,		43,446 40
Other articles of equipment,		12,195 12
Total Cost of Equipment,		$87,654 52
Land and Buildings.		
Land owned by company needed in operating road,		$13,664 29
Buildings owned by company needed in operating road,		44,997 82
Total Cost of Land and Buildings,		$58,662 11
Total Amount of Permanent Investments,		$371,813 62
Cash assets,		7,746 74
Total Property and Assets of Company,		$379,560 36

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks, new location, etc. (number of feet, 538½),		$10,129 22
New horses (number, 35),		5,078 62
New cars (number, 2),		1,328 00
Other equipment,		10 00
TOTAL ADDITION TO PROPERTY,		$16,545 84
Property sold or reduced in valuation on the books, viz.,		8,255 88
Horses sold (number, 48),	$5,543 98	
Horses charged off,	2,711 90	
NET ADDITION TO PROPERTY FOR THE YEAR,		$8,289 96

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$82,939 05
Received from other railways as tolls or rent,		113 79
West End Street Railway Company,	$113 79	
Received from sales of manure,		707 19
TOTAL EARNINGS,		$83,760 03
Income from other sources,		608 96
TOTAL INCOME FROM ALL SOURCES,		$84,368 99

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$2,486 28
Repairs of cars and other vehicles, harness and horse-shoeing,	5,296 70
Repairs of buildings,	245 01
Renewal of horses,	3,491 96
Wages and salaries of president, treasurer, superintendent and their clerks,	2,616 53
Wages and salaries of all other persons employed in operating the road,	33,521 44
Provender,	12,862 08
Taxes, State and local,	2,509 24
Rent and tolls paid other companies for use of their roads,	2,187 12
Insurance,	1,562 64
Damages for injuries to persons and property,	3,087 28
Office expenses, and all other expenses not included above,	4,251 17
TOTAL EXPENSES OF OPERATING,	$74,117 45

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$10,251 54
Interest accrued during the year,	9,867 81
Balance for the year, or surplus,	383 73
Surplus at commencement of year,	4,808 77
TOTAL SURPLUS SEPT. 30, 1890,	$5,192 50

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	23
Open cars,	35
Horses,	204
Harnesses (pairs of),	51
Sleighs,	2
Sleigh (light),	1

Other articles of equipment:

Five snow-ploughs, 4 levellers, 2 heavy wagons, 3 light wagons, 1 Concord wagon, 1 buggy, 5 sleds, 4 heavy and 2 light harnesses.

General Balance Sheet Sept. 30, 1890.

ASSETS.	
Construction,	$225,496 99
Equipment,	87,654 52
Land and buildings,	58,662 11
Cash and cash assets,	7,746 74
TOTAL ASSETS,	$379,560 36

LIABILITIES.	
Capital stock,	$200,000 00
Funded debt,	125,000 00
Unfunded debt,	49,367 86
Surplus,	5,192 50
TOTAL LIABILITIES,	$379,560 36

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To expenses,	$74,117 45
interest,	9,867 81
balance carried forward Sept. 30, 1890,	5,192 50
	$89,177 76

CR.	
By balance Sept. 30, 1889,	$4,808 77
total income,	84,368 99
	$89,177 76

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	15.12 miles.
Aggregate length of switches, sidings, etc.,	1.01 "
Total length of track, measured as single track,	16.13 "

Weight of rail per yard and description of rail: 35 pounds, T; 35 pounds, flat; 35 pounds, Richard.

Description of the several lines or routes operated by the company:

From Woburn, by way of Main, Salem, Pine, Orange and Central streets, Montvale Avenue and Main Street to Stoneham Square; thence, by way of Franklin, Green and Main streets, through Melrose to Malden Square; thence, by way of Ferry and Chelsea streets and Everett Avenue, through Everett to Broadway Square, Chelsea.

From Western Division depot Boston & Maine Railroad, Malden, by way of Pleasant. Salem, Beach, Lawrence and Salem streets in Malden and Revere and Lincoln Avenues in Saugus, to a junction with the Lynn & Boston Railroad at Cliftondale (Saugus).

From corner Beach and Lawrence streets, in Malden, to Revere Beach in front of Common in same, on track of North Woburn Street Railway Company,	.2085 mile.

Description of the several lines or routes — *Concluded.*	
From Western Division depot, Malden, to a point in front of City Hall in same, on track of West End Street Railway Company.	
From junction of Broadway and River Street, in Revere, to the beach, on track of Lynn & Boston Railroad Company, ...	1.635 miles.
From junction of Ferry and Walnut streets, in Malden, to the junction of Ferry and Chelsea streets, in Everett, on track of the West End Street Railway Company, .	1.755 "
From junction last named to Broadway Square, in Chelsea, on track of Lynn & Boston Railroad Company, . .	1.3015 "
Total length of railway, measured as single track, not including sidings, etc., operated by this company, . .	19.86 "

MILES RUN, ETC.

Total number of miles run during the year, ...	298,976
Total number of passengers carried in the cars, . . .	1,444,660
Total number of round trips for the year, ...	30,326
Number of persons regularly employed by company, . .	65

Rates of fare:

Between Woburn and Melrose Highlands, local, 5 cents. Woburn to Stoneham, 8 cents; workingmen's, 6 cents; through, 13 cents. Between Melrose Highlands and Chelsea, local, 5 cents; through, 10 cents. Between Malden and Cliftondale, local, 5 cents; through, 8 cents. Between Malden and Revere Beach, local, 5 cents; through, 10 cents.

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL.		FROM THEIR OWN MISCONDUCT OR CARELESSNESS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, ...	-	2	-	-	-	2
Employees, ...	-	-	-	-	-	-
Others, ...	-	-	-	-	-	-

STATEMENT OF EACH ACCIDENT.

May 30, 1890. — Woman stepped from car to trap-hole in street; car at a full stop.

March 29. — Man fell from front platform; injury slight.

PROPER ADDRESS OF THE COMPANY.

EAST MIDDLESEX STREET RAILWAY COMPANY,
35 CONGRESS STREET, BOSTON, MASS.

NAME AND RESIDENCE OF OFFICERS.

Amos F. Breed, *President*, Lynn, Mass. Wesley Wentworth, *Superintendent*, Malden, Mass. D. H. Sweetser, *Treasurer and Clerk of Corporation*, Lynn, Mass.

Name and Residence of Directors last elected.

Amos F. Breed, Lynn, Mass. Philip A. Chase, Lynn, Mass. D. H. Sweetser, Lynn, Mass. Lyman Dike, Stoneham, Mass. Benjamin Hinckley, Woburn, Mass. Elwin C. Foster, Revere, Mass. Frank H. Monks, Brookline, Mass. John S. Bartlett, Lynn, Mass. Chas. H. Newhall, Lynn, Mass.

AMOS F. BREED,
PHILIP A. CHASE,
BENJ. HINCKLEY,
D. H. SWEETSER,
E. C. FOSTER,
F. H. MONKS,
Directors.
D. H. SWEETSER,
Treasurer.
WESLEY WENTWORTH,
Superintendent.

Commonwealth of Massachusetts.

Suffolk, ss. Oct. 29, 1890. Then personally appeared Amos F. Breed, Philip A. Chase, Benj. Hinckley, D. H. Sweetser, E. C. Foster, Wesley Wentworth and F. H. Monks, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

WILLIAM H. HART,
Justice of the Peace.

REPORT

OF THE

EAST SIDE STREET RAILWAY COMPANY,

FOR THE YEAR ENDING SEPT. 30, 1890.

[Operated by electricity.]

CAPITAL STOCK AND DEBT.		
CAPITAL STOCK.		
Capital stock authorized by charter,	$45,000 00	
Capital stock authorized by votes of company,	45,000 00	
Capital stock paid (par value of shares, $100),		$45,000 00
Number of stockholders,	125	
DEBT.		
Unfunded debt, as follows,		$21,054 30
Notes payable,	$21,054 30	
Cash,		45 12
NET DEBT,		$21,009 18
PERMANENT INVESTMENTS.		
RAILWAY.		
Grading and paving and track, including timber, rails, etc., and laying,		$24,613 31
Interest during construction, commissions, discounts, etc.,		689 41
Engineering, agencies, salaries and other expenses during construction,		6,482 59
TOTAL COST OF CONSTRUCTION,		$31,785 31
EQUIPMENT.		
Cars, and car bodies,		$6,485 08
Other articles of equipment (electrical equipment),		24,490 34
TOTAL COST OF EQUIPMENT,		$30,975 42
LAND AND BUILDINGS.		
Land owned by company needed in operating road,		$300 00
Buildings owned by company needed in operating road,		2,307 71
TOTAL COST OF LAND AND BUILDINGS,		$2,607 71
TOTAL AMOUNT OF PERMANENT INVESTMENTS,		$65,368 44
Cash assets,		45 12
TOTAL PROPERTY AND ASSETS OF COMPANY,		$65,413 56

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Miscellaneous payments on construction account during year,	$1,811 64
New cars (number, 1; box car),	1,059 00
Other equipment (payments on account of electrical equipment),	7,494 88
Land and buildings,	179 30
TOTAL ADDITION TO PROPERTY,	$10,544 82

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$12,697 85
Income from other sources,		118 61
Sale stock,	$65 00	
Moving building,	39 05	
Miscellaneous,	20	
Refund on expense account,	13 91	
TOTAL INCOME FROM ALL SOURCES,		$12,816 46

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$449 85
Repairs of cars and other vehicles,	148 63
Repairs of buildings, $15.58; repairs electrical equipment, $1,219.09; station electrical equipment, $2.20,	1,236 87
Oil, $39,64; waste, $13.86,	53 50
Wages and salaries of president, treasurer, superintendent and their clerks,	1,195 75
Wages and salaries of all other persons employed in operating the road,	5,932 76
Legal expenses,	91 75
Taxes, State and local,*	7 12
Removing snow and ice, $68.34; hire of power, $2,678.49,	2,746 83
Insurance,	27 50
Damages for injuries to persons and property,	15 00
Office expenses, and all other expenses not included above,	865 78
TOTAL EXPENSES OF OPERATING,	$12,771 34

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$45 12
Balance for the year, or surplus,	45 12
Deficit at commencement of year,	685 86
TOTAL DEFICIT SEPT. 30, 1890,	$640 74

INVENTORY OF EQUIPMENT, SEPT. 30, 1890.

Box cars,	3
Open cars,	4
Other articles of equipment:	
One belt, 1 metre, 4 registers, 10 gongs, 1 walkaway plough, 4 scrapers, patterns, 1 Armington & Sims engine, Sprague electric equipment, tools and office furniture.	
Number of box cars fitted with electric motors,	3
Number of open cars fitted with electric motors,	2

---

* State tax for 1890, $504.56 not paid to date; city tax for 1890, $30.43 paid Oct. 21, 1890.

General Balance Sheet Sept. 30, 1890.

ASSETS.	
Construction,	$31,785 31
Equipment,	30,975 42
Land and buildings,	2,607 71
Cash and cash assets,	45 12
Deficit,	640 74
TOTAL ASSETS,	$66,054 30
LIABILITIES.	
Capital stock,	$45,000 00
Unfunded debt,	21,054 30
TOTAL LIABILITIES,	$66,054 30

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To balance Sept. 30, 1889,	$685 86
expenses,	12,771 34
	$13,457 20
CR.	
By total income,	$12,816 46
balance carried forward Sept. 30, 1890,	640 74
	$13,457 20

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	4.25 miles.
Aggregate length of switches, sidings, etc.,	.25 mile.
Total length of track, measured as single track,	4.50 miles.
Total length of track paved,	1 mile.
Weight of rail per yard, and description of rail: T rail; 40 pounds.	
Description of the several lines or routes operated by the company:	
Crescent Street from Main Street to Quincy, to Centre, to Cary, to Court, to Everett, to Centre, to Montello, to Ward, to Main Street.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	4.25 miles.

MILES RUN, ETC.

Total number of miles run during the year,	74,340
Total number of passengers carried in the cars,	259,509
Total number of round trips for the year,	8,746
Number of persons regularly employed by company,	9
Rates of fare,	5 cents.
School tickets, 10 for 25 cents.	

LIST OF ACCIDENTS.

	From Causes beyond their own Control.		From their own Misconduct or Carelessness.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	2	-	-	-	2
Employees,	-	-	-	-	-	-
Others,	-	-	-	1	-	1

STATEMENT OF EACH ACCIDENT.

June 21, 1890. — Boy continued to run after car, striving to steal a ride while conductor was collecting fares on an open car; on attempting to jump off footboard, he slipped under wheel, which ran over his foot, causing same to be amputated.

September 1. — Two men hanging on footboard of an open car were brushed from car by passing wagon loaded with furniture, and both men were somewhat injured.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890? Four and one quarter miles.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse cars. Solely by electricity.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Sprague system; overhead; single trolley.

Average speed of the electric cars operated by your company, where not impeded by horse cars. Four miles per hour in city limits, eight miles per hour in suburban districts.

PROPER ADDRESS OF THE COMPANY.

EAST SIDE STREET RAILWAY COMPANY,
BROCKTON, MASS.

NAME AND RESIDENCE OF OFFICERS.

A. Cranston Thompson, *President*, Brockton, Mass. M. E. Peterson, *Superintendent*, Brockton, Mass. Oliver F. Leach, *Treasurer and Clerk of Corporation*, Brockton, Mass.

Name and Residence of Directors last elected.

A. Cranston Thompson, Brockton, Mass. Wallace C. Flagg, Brockton, Mass. George H. Kingman, Brockton, Mass. Winthrop Coffin, Newton, Mass. W. B. Ferguson, Boston, Mass. Alfred A. Glasier, Boston, Mass. George W. Mansfield, Melrose, Mass.

A. CRANSTON THOMPSON,
WALLACE C. FLAGG,
WINTHROP COFFIN,
WILLARD B. FERGUSON,
GEO. W. MANSFIELD,
ALFRED A. GLASIER,
Directors.

OLIVER F. LEACH,
Treasurer.

M. E. PETERSON,
Superintendent.

Commonwealth of Massachusetts.

Plymouth, ss. Brockton, Nov. 15, 1890. Then personally appeared A. Cranston Thompson, Wallace C. Flagg, Oliver F. Leach, M. E. Peterson and Winthrop Coffin, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

WARREN A. REED,
Justice of the Peace.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Nov. 24, 1890. Personally appeared the above-named Willard B. Ferguson, G. W. Mansfield and A. A. Glasier, and made oath that the foregoing statement by them subscribed is true, to their best knowledge and belief.

Before me,

S. G. CROSWELL,
Notary Public.

REPORT

OF THE

EAST WAREHAM, ONSET BAY & POINT INDEPENDENCE STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$12,000 00	
Capital stock authorized by votes of company,	12,000 00	
Capital stock paid (par value of shares, $100),		$12,000 00
Number of stockholders,	45	
Permanent Investments.		
Railway.		
Grading and paving, and track, including timber, rails, etc., and laying,		$8,186 34
Engineering, agencies, salaries, and other expenses during construction,		478 30
Total Cost of Construction,		$8,664 64
Equipment.		
Horses,		$800 00
Cars,		1,724 60
Other articles of equipment,		608 04
Total Cost of Equipment,		$3,132 64
Land and Buildings.		
Land owned by company needed in operating road,		$25 00
Buildings owned by company needed in operating road,		1,067 42
Total Cost of Land and Buildings,		$1,092 42
Total Amount of Permanent Investments,		$12,889 70
Cash assets,		864 68
Total Property and Assets of Company,		$13,754 38
Property Accounts: Charges and Credits during the Year.		
New horses (number, 4),		$575 00
Land and buildings,		26 71
Total Addition to Property,		$601 71
Property sold or reduced in valuation on the books, viz.,		501 71
Horses sold,	$275 00	
Depreciation on horses and buildings,	226 71	
Net Addition to Property for the Year,		$100 00

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$2,348 92
Received from mails and express,		281 29
Received from sales of manure,		20 75
TOTAL EARNINGS,		$2,650 96
Income from other sources,		921 22
Freighting and baggage,	$921 22	
TOTAL INCOME FROM ALL SOURCES,		$3,572 18

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$85 06
Repairs of cars and other vehicles, harness and horse-shoeing,	223 48
Repairs of buildings,	33 76
Wages and salaries of all other persons employed in operating the road,	1,286 51
Provender,	594 63
Taxes, State and local,	88 16
Insurance,	52 50
Office expenses, and all other expenses not included above,	252 92
TOTAL EXPENSES OF OPERATING,	$2,617 02

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,		$955 16
Balance for the year, or surplus,		955 16
Surplus at commencement of year,	$1,025 93	
Deduct: depreciation,	226 71	
Surplus at commencement of year, as changed by aforesaid entries,		799 22
TOTAL SURPLUS SEPT. 30, 1890,		$1,754 38

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box-cars,	3
Open cars,	2
Horses,	8
Harnesses (pairs of),	7
Omnibuses,	1

Other articles of equipment:
Two express wagons, 1 farm wagon, 1 democrat wagon, 1 tip-cart, 1 lumber gear, 1 sand car.

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$8,664 64
Equipment,	3,132 64
Land and buildings,	1,092 42
Cash and cash assets,	864 68
TOTAL ASSETS,	$13,754 38

LIABILITIES.

Capital stock,	$12,000 00
Surplus,	1,754 38
TOTAL LIABILITIES,	$13,754 38

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.	
Dr.	
To expenses,	$2,617 02
depreciation,	226 71
balance carried forward Sept. 30, 1890,	1,754 38
	$4,598 11
Cr.	
By balance Sept. 30, 1890,	$1,025 93
total income,	3,572 18
	$4,598 11

Description of Railway.	
Length of railway owned by company, measured as a single track, exclusive of sidings,	1.666 miles.
Aggregate length of switches, sidings, etc.,	.113 mile.
Total length of track, measured as single track,	1.779 miles.
Weight of rail per yard, and description of rail: Twenty-five pounds, T rail.	
Description of the several lines or routes operated by this company:	
From East Wareham station, on land of Old Colony Railroad Company, thence through town road, through Onset Avenue, to Point Independence bridge in Wareham, Mass.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	1.666 miles.
Miles Run, etc.	
Total number of miles run during the year,	5,441
Total number of passengers carried in the cars,	27,394
Total number of round trips for the year,	1,633
Number of persons regularly employed by company,	5
Rates of fare: Five to 10 cents.	

Proper Address of the Company.

EAST WAREHAM, ONSET BAY & POINT INDEPENDENCE STREET RAILWAY COMPANY,
East Wareham, Mass.

Name and Residence of Officers.

T. B. Griffith, *President*, Wareham, Mass. I. B. Eldridge, *Superintendent and Treasurer*, East Wareham, Mass. Benj. F. Gibbs, *Clerk of Corporation*, East Wareham, Mass.

Name and Residence of Directors last elected.

Thomas B. Griffith, Wareham, Mass. Benjamin F. Gibbs, Wareham, Mass. Isaac B. Eldridge, Wareham, Mass. Hardy Smith, Wareham, Mass. Kies

Doane, Wareham, Mass. Alfred W. Wilcox, Worcester, Mass. William F. Nye, Fairhaven, Mass. Benjamin F. Caswell, Middleborough, Mass. Charles McDermott, Falmouth, Mass.

THOMAS B. GRIFFITH,
KIES DOANE,
BENJ. F. GIBBS,
ISAAC B. ELDRIDGE,
BENJ. F. CASWELL,
HARDY SMITH,
WILLIAM F. NYE,
ALFRED W. WILCOX,
Directors.
I. B. ELDRIDGE,
Treasurer.
I. B. ELDRIDGE,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

PLYMOUTH, SS. WAREHAM, Oct. 27, 1890. Then personally appeared Thomas B. Griffith, Kies Doane, Isaac B. Eldridge, Benj. F. Caswell, Hardy Smith, Wm. F. Nye and Alfred W. Wilcox, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

BENJ. F. GIBBS,
Justice of the Peace.

COMMONWEALTH OF MASSACHUSETTS.

PLYMOUTH, SS. Oct. 27, 1890. Then personally appeared Benj. F. Gibbs, and made oath to the truth of the foregoing statement by him subscribed, to his best knowledge.

JAMES H. YOUNG,
Notary Public.

REPORT

OF THE

ESSEX ELECTRIC STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

[Under construction. To be operated by electricity.]

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$50,000 00	
Capital stock authorized by votes of company,	50,000 00	
Capital stock paid (par value of shares, $100),		$50,000 00
Number of stockholders,	25	
Debt.		
Unfunded debt, as follows:		
Notes payable,	$7,642 91	
Accounts payable,	25,089 39	
Total Gross Debt,		$32,732 30
Cash,		7,472 82
Net Debt,		$25,259 48
Permanent Investments.		
Railway.		
Grading and paving, and track, including timber, rails, etc., and laying,		$34,712 15
Interest during construction, commissions, discounts, etc.,		192 50
Engineering, agencies, salaries and other expenses during construction,		3,250 44
Total Cost of Construction,		$38,155 09
Equipment.		
Horses,		$150 00
Cars,		10,586 29
Other articles of equipment,		14,543 10
Total Cost of Equipment,		$25,279 39
Land and Buildings.		
Land and buildings owned by company needed in operating road,		$11,825 00
Total Cost of Land and Buildings,		$11,825 00
Total Amount of Permanent Investments,		$75,259 48
Cash assets,		6,472 82
Total Property and Assets of Company,		$82,732 30

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks,	$38,155 09
New horses (number, 1),	150 00
New cars (number, 12),	10,586 29
Other equipment,	14,543 10
Land and buildings,	11,825 00
TOTAL ADDITION TO PROPERTY,	$75,259 48
NET ADDITION TO PROPERTY FOR THE YEAR,	*75,259 48

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	4
Open cars,	8
Horses,	1
Harnesses (pairs of),	1
Number of box cars fitted with electric motors,	2
Number of open cars fitted with electric motors,	2

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$38,155 09
Equipment,	25,279 39
Land and buildings,	11,825 00
Cash and cash assets,	7,472 82
TOTAL ASSETS,	$82,732 30

LIABILITIES.

Capital stock,	$50,000 00
Unfunded debt,	32,732 30
TOTAL LIABILITIES,	$82,732 30

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	3.91 miles.
Aggregate length of switches, sidings, etc.,	.28 mile.
Total length of track, measured as single track,	4.19 miles.

Total length of track paved (in construction).

Weight of rail per yard, and description of rail (50 pounds T).

Description of the several lines or routes operated by the company:

From corner of Foster and Washington streets, Peabody, to corner of Webb and Derby streets, Salem.

---

* Built during the year.

Name of system, if overhead wires are used, and whether single or double trolley system is used. To be operated by overhead; single trolley.

Number of miles of track for electric railway under construction Sept. 30, 1890. Three and ninety-one one-hundredths miles.

Name of system, or, if storage batteries are to be used, the name of the storage battery. Overhead system; Franklin Electrical Company.

PROPER ADDRESS OF THE COMPANY.

ESSEX ELECTRIC STREET RAILWAY COMPANY,
SALEM, MASS.

NAME AND RESIDENCE OF OFFICERS.

King Upton, *President*, Salem, Mass. David N. Cook, *Superintendent*, Salem, Mass. John Howard Fallon, *Treasurer*, Peabody, Mass. Wm. F. M. Collins, *Clerk of Corporation*, Salem, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

King Upton, Salem, Mass. William D. Dennis, Salem, Mass. Joseph M. Parsons, Salem, Mass. Frank E. Farnham, Peabody, Mass. Frank W. Stanley, Peabody, Mass. John Howard Fallon, Peabody, Mass.

KING UPTON,
JOHN HOWARD FALLON,
FRANK W. STANLEY,
FRANK E. FARNHAM,
WILLIAM D. DENNIS,
JOS. M. PARSONS,
Directors.
JOHN HOWARD FALLON,
Treasurer.
DAVID N. COOK,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

ESSEX, ss. Nov. 17, 1890. Then personally appeared King Upton, John Howard Fallon, Frank W. Stanley, Frank E. Farnham, William D. Dennis and Jos. M. Parsons, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

GEO. HOLMAN,
Justice of the Peace.

REPORT

OF THE

FITCHBURG STREET RAILWAY COMPANY,

FOR THE YEAR ENDING SEPT. 30, 1890.

CAPITAL STOCK AND DEBT.

CAPITAL STOCK.		
Capital stock authorized by charter,	$60,000 00	
Capital stock authorized by votes of company,	60,000 00	
Capital stock paid (par value of shares, $100),		$60,000 00
Number of stockholders,	24	
DEBT.		
Funded debt, as follows,		$30,000 00
Mortgage bonds due Oct. 1, 1909, rate of interest 5 per cent.,	$30,000 00	
Unfunded debt, as follows,		1,826 66
Accrued interest,	$850 00	
Outstanding tickets,	976 66	
TOTAL GROSS DEBT,		$31,826 66
Amount of cash assets, viz.,		3,507 49
Cash,	$2,367 31	
Supplies,	740 18	
Debit balances,	400 00	
NET DEBT,		$28,319 17
PERMANENT INVESTMENTS.		
RAILWAY.		
TOTAL COST OF CONSTRUCTION,		$69,519 33
EQUIPMENT.		
Horses,		$7,685 00
Cars,		8,500 00
Other articles of equipment,		2,500 00
TOTAL COST OF EQUIPMENT,		$18,685 00
LAND AND BUILDINGS.		
Buildings owned by company needed in operating road,		$5,494 63
TOTAL COST OF BUILDINGS,		$5,494 63
OTHER PROPERTY.		
Fitchburg Park Company stock,		$500 00
TOTAL AMOUNT OF PERMANENT INVESTMENTS,		$94,198 96
Cash assets,		3,507 49
TOTAL PROPERTY AND ASSETS OF COMPANY,		$97,706 45

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks (number of feet, 4,000),		$2,682 81
New horses (number, 8),		1,248 30
New cars (number, 2),		1,374 00
Other equipment,		880 33
Land and buildings,		494 63
TOTAL ADDITION TO PROPERTY,		$6,680 07
Property sold or reduced in valuation on the books, viz.,		2,784 63
Horses charged to renewals,	$752 30	
Horses,	1,211 00	
Cars, depreciation,	441 00	
Equipment, depreciation,	380 33	
NET ADDITION TO PROPERTY FOR THE YEAR,		$3,895 44

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$30,961 92
Received from sales of manure,		238 11
TOTAL EARNINGS.		$31,200 03
Income from other sources,		202 50
Advertising,	$107 50	
Contribution to Water Street extension,	95 00	
TOTAL INCOME FROM ALL SOURCES,		$31,402 53

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$1,369 96
Repairs of cars and other vehicles, harness and horse-shoeing,	1,511 09
Repairs of buildings,	98 56
Renewal of horses,	752 30
Wages and salaries of president, treasurer, superintendent and their clerks,	2,550 00
Wages and salaries of all other persons employed in operating the road,	10,793 32
Provender,	4,864 42
Taxes, State and local,	981 35
Insurance,	182 33
Damages for injuries to persons and property,	337 00
Office expenses, and all other expenses not included above,	2,155 26
TOTAL EXPENSES OF OPERATING,	$25,595 59

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,		$5,806 94
Interest accrued during the year,		850 00
Dividends declared (6 per cent. for the year),		3,600 00
Balance for the year, or surplus,		1,356 94
Surplus at commencement of year,		5,609 18
Deduct,		1,086 33
Depreciation horses,	$265 00	
Depreciation cars,	441 00	
Depreciation equipment,	380 33	
Surplus at commencement of year, as changed by aforesaid entries,		4,522 85
TOTAL SURPLUS SEPT. 30, 1890,		$5,879 79

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box-cars,	6
Open cars,	7
Horses,	53
Harnesses (pairs of),	24
Harnesses (single),	2
Sleigh,	1

Other articles of equipment:

One construction car, 1 snow-plough, 1 snow-leveller, 2 snow-sleds, 1 herdic, 1 tip-cart, 1 wagon, horse-power and cutter.

General Balance Sheet Sept. 30, 1890.

ASSETS.	
Construction,	$69,519 33
Equipment,	18,685 00
Land and buildings,	5,494 63
Other property,	500 00
Cash and cash assets,	3,507 49
TOTAL ASSETS,	$97,706 45
LIABILITIES.	
Capital stock,	$60,000 00
Funded debt,	30,000 00
Unfunded debt,	1,826 66
Surplus,	5,879 79
TOTAL LIABILITIES,	$97,706 45

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To expenses,	$25.595 59
interest,	850 00
dividends,	3,600 00
depreciation,	1,086 33
balance carried forward Sept. 30, 1890,	5,879 79
	$37,011 71
CR.	
By balance Sept. 30, 1889,	$5,609 18
total income,	31,402 53
	$37,011 71

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	6.297 miles.
Aggregate length of switches, sidings, etc.,	.392 mile.
Total length of track, measured as single track,	6.689 miles.
Total length of track paved,	3.716 "

Weight of rail per yard, and description of rail: Tram, 35 and 45 pounds; ties, 30, 35 and 40 pounds.

Description of the several lines or routes operated by the company: Waite's Corner to Bemis Road. Heywood's to Fitchburg Park.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company, . . .	6.297 miles.
Miles Run, etc.	
Total number of miles run during the year, ...	126,338
Total number of passengers carried in the cars, . . .	509,143
Total number of round trips for the year, 27,744, of an average length of 4.553 miles.	
Number of persons regularly employed by company, . .	24
Rates of fare, ...	5 to 8 cents.

List of Accidents.

	From Causes beyond their own Control.		From their own Misconduct or Carelessness.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, ...	-	-	-	4	-	4
Employees, ...	-	-	-	-	-	-
Others, ...	-	1	-	-	-	1

Statement of Each Accident.

Nov. 30, 1889. — Man slipped from platform; slightly injured.

Feb. 13, 1890. — Man voluntarily left forward platform while car was in motion, slipped under wheel, and slightly bruised foot and ankle.

May 17. — Lady fell to pavement while leaving a standing car, presumably by her dress or the braid thereof being caught on some portion of the car.

August 1. — Lady jumped from moving car without notifying conductor; sprained ankle.

July 30. — Man slightly injured, while standing in the street, by a broken pole.

Proper Address of the Company.

FITCHBURG STREET RAILWAY COMPANY,
Fitchburg, Mass.

Name and Residence of Officers.

Henry A. Willis, *President*, Fitchburg, Mass. Wesley W. Sargent, *Superintendent*, Fitchburg, Mass. Benjamin F. Wallis, *Treasurer*, Fitchburg, Mass. Harris C. Hartwell, *Clerk of Corporation*, Fitchburg, Mass.

Name and Residence of Directors last elected.

Henry A. Willis, Herbert I. Wallace, Harris C. Hartwell, George W. Weymouth, Edgar F. Belding, Arthur H. Lowe, James Phillips, Jr., all of Fitchburg, Mass.

HENRY A. WILLIS,
HARRIS C. HARTWELL,
ARTHUR H. LOWE,
EDGAR F. BELDING,
Directors.
BENJAMIN F. WALLIS,
Treasurer.
WESLEY W. SARGENT,
Superintendent.

Commonwealth of Massachusetts.

Worcester, ss. Fitchburg, Oct. 31, 1890. Then personally appeared Henry A. Willis, Harris C. Hartwell, Arthur H. Lowe, Edgar F. Belding, Benjamin F. Wallis and Wesley W. Sargent, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

WILBUR B. TENNEY,
Justice of the Peace.

REPORT

OF THE

FRAMINGHAM UNION STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$60,000 00	
Capital stock authorized by votes of company,	60,000 00	
Capital stock paid (par value of shares, $100),		$60,000 00
Number of stockholders,	112	
Debt.		
Funded debt, as follows,		$50,000 00
Bonds due 1909, rate of interest 5 per cent.,	$50,000 00	
Unfunded debt, as follows:		
Notes payable,		750 00
Total Gross Debt,		$50,750 00
Amount of cash assets, viz.,		1,882 93
Cash,	$492 93	
Supplies,	375 00	
Debit balances,	1,015 00	
Net Debt,		$48,867 07
Permanent Investments.		
Railway.		
Total Cost of Construction,		$84,767 03
Equipment.		
Horses,		$5,935 00
Cars,		11,781 00
Other articles of equipment,		1,362 04
Total Cost of Equipment,		$19,078 04
Land and Buildings.		
Land and buildings owned by company needed in operating road,		$10,685 16
Total Cost of Land and Buildings,		$10,685 16
Total Amount of Permanent Investments,		$114,530 23
Cash assets,		1,882 93
Total Property and Assets of Company,		$116,413 16

Property Accounts: Charges and Credits during the Year.

Extension of tracks (number of feet, 1,600),		$5,520 89
New horses (number, 4),		580 00
Other equipment,		71 25
Land and buildings,		80 94
Total Addition to Property,		$6,253 08
Property sold or reduced in valuation on the books, viz.,		600 00
One car sold,	$600 00	
Net Addition to Property for the Year,		$5,653 08

Revenue for the Year.

Received from passengers on railways operated by this company,		$19,089 96
Received from mails and express,		150 87
Received from sales of manure,		107 50
Total Earnings,		$19,348 33
Income from other sources,		147 25
Advertisements in cars,	$58 00	
Livery,	89 25	
Total Income from All Sources,		$19,495 58

Expenses of Operating for the Year.

Repairs of road-bed and track,	$55 20
Repairs of cars and other vehicles, harness and horse-shoeing,	711 22
Repairs of buildings,	56 38
Wages and salaries of president, treasurer, superintendent and their clerks,	995 67
Wages and salaries of all other persons employed in operating the road,	8,181 53
Provender,	3,198 09
Taxes, State and local,	471 04
Insurance,	228 00
Damages for injuries to persons and property,	150 00
Office expenses, and all other expenses not included above,	1,194 29
Total Expenses of Operating,	$15,241 42

Net Income, Dividends, etc.

Total Net Income above Operating Expenses,	$4,254 16
Interest accrued during the year,	2,513 74
Balance for the year, or surplus,	1,740 42
Surplus at commencement of year,	3,922 74
Total Surplus Sept. 30, 1890,	$5,663 16

Inventory of Equipment Sept. 30, 1890.

Box cars,	8
Open cars,	6
Horses,	38
Harnesses (pairs of),	19

Other articles of equipment:

Two snow-ploughs, 2 hay cutters, 1 Concord wagon, 1 tip-cart, 2 sets scrapers, barn tools, etc.

General Balance Sheet Sept. 30, 1890.

ASSETS.	
Construction,	$84,767 03
Equipment,	19,078 04
Land and buildings,	10,685 16
Cash and cash assets,	1,882 93
TOTAL ASSETS,	$116,413 16
LIABILITIES.	
Capital stock,	$60,000 00
Funded debt,	50,000 00
Unfunded debt,	750 00
Surplus,	5,663 16
TOTAL LIABILITIES,	$116,413 16

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To expenses,	$15,241 42
interest,	2,513 74
balance carried forward Sept. 30, 1890,	5,663 16
	$23,418 32
CR.	
By balance Sept. 30, 1889,	$3,922 74
total income,	19,495 58
	$23,418 32

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	6.912 miles.
Aggregate length of switches, sidings, etc.,	.441 mile.
Total length of track, measured as single track,	7.353 miles.
Total length of track paved,	5.050 "

Weight of rail per yard, and description of rail: T, 30 pounds per yard, steel; side-bearing, 35 pounds per yard, steel.

Description of the several lines or routes operated by the company:

Route from Boston & Albany tracks at South Framingham to Framingham Centre.

Route from Boston & Albany tracks at South Framingham to Saxonville.

Route from Concord Street to Para Rubber Company's Works on Howard Street.

Route from Union Avenue in Lake View Avenue to O. C. R. R. Co's. property near Lake View.

Total length of railway, measured as single track, not including sidings, etc., operated by this company,	6.912 miles.

MILES RUN, ETC.

Total number of miles run during the year,	65,676
Total number of passengers carried in the cars,	337,000
Total number of round trips for the year,	12,369
Number of persons regularly employed by company,	13

Rates of fare, cash 5 and 10 cents; tickets, 8½ cents.

Proper Address of the Company.

FRAMINGHAM UNION STREET RAILWAY COMPANY,
South Framingham, Mass.

Name and Residence of Officers.

Charles H. Emerson, *President and Superintendent*, South Framingham, Mass. Franklin E. Gregory, *Treasurer*, Framingham, Mass. James R. Entwistle, *Clerk of Corporation*, Saxonville, Mass.

Name and Residence of Directors last elected.

Chas. H. Emerson, South Framingham, Mass. Franklin E. Gregory, Framingham, Mass. J. R. Entwistle, Saxonville, Mass. L. F. Fuller, Saxonville, Mass. E. F. Sprague, Saxonville, Mass. Ira B. Forbes, Sherborn, Mass. Chas. F. Shaw, New Bedford, Mass. J. A. Beauvais, New Bedford, Mass. F. W. Brightman, Fall River, Mass.

C. H. EMERSON,
F. E. GREGORY,
J. R. ENTWISTLE,
L. F. FULLER,
F. C. STEARNS,
IRA B. FORBES,
Directors.

FRANKLIN E. GREGORY,
Treasurer.

CHAS. H. EMERSON,
Superintendent.

Commonwealth of Massachusetts.

Middlesex, ss. Nov. 6, 1890. Then personally appeared C. H. Emerson, F. E. Gregory, J. R. Entwistle, L. F. Fuller and F. C. Stearns, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

IRA B. FORBES,
Justice of the Peace.

REPORT

OF THE

GLOBE STREET RAILWAY COMPANY.

FOR THE YEAR ENDING SEPT. 30, 1890.

CAPITAL STOCK AND DEBT.		
CAPITAL STOCK.		
Capital stock authorized by charter,	$300,000 00	
Capital stock authorized by votes of company,	300,000 00	
Capital stock paid (par value of shares, $100),		$300,000 00
Number of stockholders,	117	
DEBT.		
Unfunded debt, as follows,		$9,219 24
Bills payable,	$9,219 24	
TOTAL GROSS DEBT,		$9,219 24
Amount of cash assets, viz.,		11,031 55
Cash,	$1,033 50	
Supplies,	9,610 25	
Debit balances,	387 80	
PERMANENT INVESTMENTS.		
RAILWAY.		
TOTAL COST OF CONSTRUCTION,		$200,000 00
EQUIPMENT.		
Horses,		$28,800 00
Cars,		33,000 00
Other articles of equipment,		2,844 00
TOTAL COST OF EQUIPMENT,		$64,644 00
LAND AND BUILDINGS.		
Land and buildings owned by company needed in operating road,		$58,870 48
TOTAL COST OF LAND AND BUILDINGS,		$58,870 48
TOTAL AMOUNT OF PERMANENT INVESTMENTS,		$323,514 48
Cash assets,		11,031 55
TOTAL PROPERTY AND ASSETS OF COMPANY,		$334,546 03
PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.		
Extension of tracks (number of feet, 4,676),		$8,853 77
New horses (number, 29),		2,900 00
New cars (number, 9),		8,055 00
Land and buildings,		487 20
TOTAL ADDITION TO PROPERTY,		$20,295 97

Property sold or reduced in valuation on the books, viz.,		$15,414 77
Cars, 6 sold,	$2,160 00	
Equipment, sold,	6 00	
Depreciation cars,	4,395 00	
Depreciation construction,	8,853 77	
Net Addition to Property for the Year,		$4,881 20

Revenue for the Year.

Received from passengers on railways operated by this company,		$154,747 62
Received from sales of manure,		1,676 76
Total Earnings,		$156,424 38
Income from other sources,		875 85
Advertisements in cars,	$600 00	
Profit on sale of old rails,	275 85	
Total Income from All Sources,		$157,300 23

Expenses of Operating for the Year.

Repairs of road-bed and track,	$10,767 53
Repairs of cars and other vehicles, harness and horse-shoeing,	8,997 68
Repairs of buildings,	547 42
Renewal of horses,	5,110 01
Wages and salaries of president, treasurer, superintendent and their clerks,	5,225 00
Wages and salaries of all other persons employed in operating the road,	52,655 18
Provender,	21,806 96
Taxes, State and local,	5,810 28
Insurance,	1,633 25
Damages for injuries to persons and property,	2,214 98
Office expenses, and all other expenses not included above,	8,205 06
Total Expenses of Operating,	$122,973 35

Net Income, Dividends, etc.

Total Net Income above Operating Expenses,		$34,326 88
Interest accrued during the year,		203 44
Dividends declared (6 per cent. for the year),		18,000 00
Balance for the year, or surplus,		16,123 44
Surplus at commencement of year,	$22,452 12	
Deduct depreciation,	13,248 77	
Surplus at commencement of year, as changed by aforesaid entries,		9,203 35
Total Surplus Sept. 30, 1890,		$25,326 79

Inventory of Equipment Sept. 30, 1890.

Box cars,	30
Open cars,	36
Horses,	288
Harnesses (pairs of),	90
Sleighs,	5

Other articles of equipment:

Two snow-ploughs, 3 snow-levellers, 1 snow sled, 1 reach, 3 double carts, 3 buggies, 1 express wagon, 1 hay cart, rail cleaners, 3 horse-powers, 4 hay cutters, blacksmith shop, equipments, etc.

General Balance Sheet Sept. 30, 1890.

ASSETS.	
Construction,	$200,000 00
Equipment,	64,644 00
Land and buildings,	58,870 48
Cash and cash assets,	11,031 55
TOTAL ASSETS,	$334,546 03
LIABILITIES.	
Capital stock,	$300,000 00
Unfunded debt,	9,219 24
Surplus,	25,326 79
TOTAL LIABILITIES,	$334,546 03

Copy of Profit and Loss Account for the Year Ending Sept. 30, 1890.

DR.	
To expenses,	$122,973 35
interest,	203 44
dividends,	18,000 00
depreciation,	13,248 77
balance carried forward Sept. 30, 1890,	25,326 79
	$179,752 35
CR.	
By balance Sept. 30, 1889,	$22,452 12
total income,	157,300 23
	$179,752 35

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	16.773 miles.
Aggregate length of switches, sidings, etc.,	.609 mile.
Total length of track, measured as single track,	17.382 miles.
Total length of track paved,	16.882 "

Weight of rail per yard, and description of rail: Side-bearing, 35 pounds per yard, iron; and 35, 46 and 47 pounds per yard, steel.

Description of the several lines or routes operated by the company:

North Main and Pleasant Streets Route.

Steepbrook to Flint Village via North Main and Pleasant streets. Spur tracks to depots in Old Colony Avenue and Eight Rod Way.

Globe Village and Shove Mill Route.

City Hall to Shove Mill via South Main, East Main, East Globe and South Main streets and Shove Street. Spur track in Broadway to car house.

Winter, Main and Fourth Streets Route.

Orange Street, New Boston Road via Orange Street, New Boston Road, Highland Avenue, Winter, Franklin, North and South Main, Rodman, Fourth, Lyon and Second streets and Stafford Road to car house.

Bedford and Rodman Streets Route.

Via Quarry, Bedford, Main, Pleasant, Fourth, Hartwell and Rodman streets to Warren Street.

Total length of railway, measured as single track, not including sidings, etc., operated by this company, . . .	16.773 miles.

MILES RUN, ETC.

Total number of miles run during the year, ...	499,219
Total number of passengers carried in the cars, . . .	3,143,212
Total number of round trips for the year, ...	104,850
Number of persons regularly employed by company, . .	109
Rates of fare, ...	5, 3, & 2½ cents.

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL.		FROM THEIR OWN MISCONDUCT OR CARELESSNESS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, ...	-	3	-	2	-	5
Employees, ...	-	-	-	-	-	-
Others, ...	-	-	1	-	1	-

STATEMENT OF EACH ACCIDENT.

Feb. 1, 1890. — Child ran in front of car, was injured and died February 3.

February 8. — Man fell from car.

June 9. — Man and two women hurt by runaway horse jumping through car.

August 17 — Woman fell from car.

PROPER ADDRESS OF THE COMPANY.

GLOBE STREET RAILWAY COMPANY,
FALL RIVER, MASS.

NAME AND RESIDENCE OF OFFICERS.

Frank S. Stevens, *President*, Swansea, Mass. John H. Bowker, *Superintendent*, Fall River, Mass. Robert S. Goff, *Treasurer*, Fall River, Mass. Marcus G. B. Swift, *Clerk of Corporation*, Fall River, Mass.

Name and Residence of Directors last elected.

Frank S. Stevens, Swansea, Mass. John S. Brayton, Fall River, Mass. Andrew J. Borden, Fall River, Mass. George H. Hawes, Fall River, Mass. Joseph A. Beauvais, New Bedford, Mass. Simeon B. Chase, Fall River, Mass. Marcus G. B. Swift, Fall River, Mass.

F. S. STEVENS,
JOHN S. BRAYTON,
ANDREW J. BORDEN,
GEO. H. HAWES,
SIMEON B. CHASE,
MARCUS G. B. SWIFT,
Directors.

ROBERT S. GOFF,
Treasurer.

JOHN H. BOWKER,
Superintendent.

Commonwealth of Massachusetts.

Bristol, ss. Nov. 4, 1890. Then personally appeared F. S. Stevens, John S. Brayton, Andrew J. Borden, Geo. H. Hawes, Simeon B. Chase, Marcus G. B. Swift, Robert S. Goff and John H. Bowker, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

HENRY H. EARL,
Justice of the Peace.

REPORT

OF THE

GLOUCESTER STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.

Capital Stock.

Capital stock authorized by charter,	$60,000 00	
Capital stock authorized by votes of company,	60,000 00	
Capital stock paid (par value of shares, $100),		$60,000 00
Number of stockholders,	9	

Debt.

Funded debt, as follows,		$43,000 00
Mortgage bonds due April 1, 1907, rate of interest 5 per cent.,	$43,000 00	
Unfunded debt, as follows,		19,669 30
Bills payable,	$19,000 00	
Accounts payable,	669 30	
Total Gross Debt,		$62,669 30
Amount of cash assets, viz.,		20,830 80
Cash,	$2,263 12	
Supplies,	75 00	
Debit balances,	18,492 68	
Net Debt,		$41,838 50

Permanent Investments.

Railway.

Grading and paving,	$13,984 98	
Track, including timber, rails, etc., and laying,	32,588 39	
Interest during construction, commissions, discounts, etc.,	3,454 99	
Engineering, agencies, salaries and other expenses during construction,	1,325 45	
Total Cost of Construction,		$51,353 81

Equipment.

Horses,		$15,400 00
Cars,		12,852 30
Other articles of equipment,		3,394 02
Total Cost of Equipment,		$31,646 32

Land and Buildings.

Land owned by company needed in operating road,		$1,615 00
Buildings owned by company needed in operating road,		15,685 09
Total Cost of Land and Buildings,		$17,300 09

TOTAL AMOUNT OF PERMANENT INVESTMENTS,		$100,300 22
Cash assets,		20,830 80
TOTAL PROPERTY AND ASSETS OF COMPANY,		$121,131 02
PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.		
New cars (number, 3),		$1,733 30
Other equipment,		151 91
TOTAL ADDITION TO PROPERTY,		$1,885 21
Property sold or reduced in valuation on the books, viz.,		600 00
Horses,	$600 00	
NET ADDITION TO PROPERTY FOR THE YEAR,		$1,285 21
REVENUE FOR THE YEAR.		
Received from passengers on railways operated by this company,		$34,436 23
Received from sales of manure,		162 50
TOTAL EARNINGS,		$34,598 73
Income from other sources,		853 79
Advertising,	$142 50	
Blacksmith shop,	178 94	
Use of teams,	532 35	
TOTAL INCOME FROM ALL SOURCES,		$35,452 52
EXPENSES OF OPERATING FOR THE YEAR.		
Repairs of road-bed and track,		$941 59
Repairs of cars and other vehicles, harness and horse-shoeing,		2,734 73
Repairs of buildings,		55 40
Renewal of horses,		608 55
Wages and salaries of president, treasurer, superintendent and their clerks,		1,566 85
Wages and salaries of all other persons employed in operating the road,		16,029 35
Provender,		7,610 27
Taxes, State and local,		451 80
Damages for injuries to persons and property,		20 00
Office expenses, and all other expenses not included above,		1,261 19
TOTAL EXPENSES OF OPERATING,		$31,279 73
NET INCOME, DIVIDENDS, ETC.		
TOTAL NET INCOME ABOVE OPERATING EXPENSES,		$4,172 79
Interest accrued during the year,		2,150 00
Balance for the year, or surplus,		2,022 79
Deficit at commencement of year,		3,561 07
TOTAL DEFICIT SEPT. 30, 1890,		$1,538 28
INVENTORY OF EQUIPMENT SEPT. 30, 1890.		
Box-cars,		8
Open cars,		10
Horses,		77
Harnesses (pairs of),		45
Other articles of equipment: One freight car, 1 snow-plough, 2 wagons, 1 sleigh, 1 tip-cart, 1 buggy, 1 Concord wagon, 1 leveller, tools, furniture, etc.		
Number of box-cars fitted with electric motors,		2
Number of open cars fitted with electric motors,		1

General Balance Sheet Sept. 30, 1890.

ASSETS.	
Construction,	$51,353 81
Equipment,	31,646 32
Land and buildings,	17,300 09
Cash and cash assets,	20,830 80
Deficit,	1,538 28
TOTAL ASSETS,	$122,669 30
LIABILITIES.	
Capital stock,	$60,000 00
Funded debt,	43,000 00
Unfunded debt,	19,669 30
TOTAL LIABILITIES,	$122,669 30

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To balance Sept. 30, 1889,	$3,561 07
expenses,	31,279 73
interest,	2,150 00
	$36,990 80
CR.	
By total income,	$35,452 52
balance carried forward Sept. 30, 1890,	1,538 28
	$36,990 80

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	5 03 miles.
Aggregate length of switches, sidings, etc.,	.35 mile.
Total length of track, measured as single track,	5.38 miles.
Weight of rail per yard, and description of rail: Johnston, 35 pounds; T, 35 pounds; tram, 35 pounds.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	5.03 miles.

MILES RUN, ETC.

Total number of miles run during the year,	132,322
Total number of passengers carried in the cars,	650,692
Total number of round trips for the year,	23,624
Number of persons regularly employed by company,	34
Rates of fare,	5 and 6 cents.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890? Trials of electric cars were being made on that date, but none ran continuously.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse cars. The road was run by horse cars, with exception of trials named above.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Daft system; double trolley.

Number of miles of track for electric railway under construction Sept. 30, 1890. Four.

Proper Address of the Company.

GLOUCESTER STREET RAILWAY COMPANY,
Gloucester, Mass.

Name and Residence of Officers.

Henry Souther, *President*, Gloucester, Mass. W. A. Strangman, *Superintendent*, Gloucester, Mass. Thomas Hodge, *Treasurer*, Gloucester, Mass. D. G. Presson, *Clerk of Corporation*, Gloucester, Mass.

Name and Residence of Directors last elected.

Henry Souther, Gloucester, Mass. Thomas Hodge, Gloucester, Mass. D. G. Presson, Gloucester, Mass. Harrison O. Flint, Salem, Mass. J. P. Langmaid, Salem, Mass. W. B. Ferguson, Salem, Mass.

HENRY SOUTHER,
HARRISON O. FLINT,
THOMAS HODGE,
J. P. LANGMAID,
D. G. PRESSON,
Directors.

THOMAS HODGE,
Treasurer.

W. A. STRANGMAN,
Superintendent.

Commonwealth of Massachusetts.

Essex, ss. Gloucester, Oct. 22, 1890. Then personally appeared Henry Souther, Harrison O. Flint, Thomas Hodge, J. P. Langmaid, D. G. Presson and W. A. Strangman, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

J. WARREN WONSON,
Justice of the Peace.

REPORT

OF THE

HAVERHILL & GROVELAND STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.

Capital Stock.

Capital stock authorized by charter, . .	$144,000 00	
Capital stock authorized by votes of company,	144,000 000	
Capital stock paid (par value of shares, $100), ...		$144,000 00
Number of stockholders, ...	67	

Permanent Investments.

Railway.

Grading and paving, and track, including timber, rails, etc., and laying, ...	73,373 41
Engineering, agencies, salaries and other expenses during construction, ...	1,520 00
Total Cost of Construction, ...	$74,893 41

Equipment.

Horses, ...	$9,400 00
Cars, ...	21,385 00
Other articles of equipment, ...	9,064 11
Total Cost of Equipment, ...	$39,849 11

Land and Buildings.

Land owned by company needed in operating road, . .	$2,850 00
Buildings owned by company needed in operating road, .	18,379 74
Total Cost of Land and Buildings, ...	$21,229 74
Total Amount of Permanent Investments, . .	$135,972 26
Cash assets, ...	9,028 47
Total Property and Assets of Company, ...	$145,000 73

Property Accounts: Charges and Credits during the Year.

Extension of tracks, and laying 40-pound rail instead of 30-pound (number of feet, 70), ...	$2,077 88
New horses, ...	650 00
Other equipment, ...	100 00
Total Addition to Property, ...	$2,827 88
Property sold or reduced in valuation on the books, viz.: Real estate (house lots), ...	3,375 00
Net Reduction of Property for the Year, . .	$547 12

Revenue for the Year.

Received from passengers on railways operated by this company,		$56,801 94
Received from sales of manure,		260 50
Total Earnings,		$57,062 44
Income from other sources,		663 52
Advertising in cars,	$53 00	
Interest on deposits, etc.,	250 52	
Rent of waiting room,	360 00	
Total Income from All Sources,		$57,725 96

Expenses of Operating for the Year.

Repairs of road-bed and track,	$8,602 40
Repairs of cars and other vehicles, harness and horse-shoeing,	3,378 22
Repairs of buildings,	688 63
Renewal of horses,	1,715 00
Wages and salaries of president, treasurer, superintendent and their clerks,	2,650 00
Wages and salaries of all other persons employed in operating the road,	17,677 35
Provender,	7,842 57
Taxes, State and local,	1,965 26
Insurance,	37 50
Damages for injuries to persons and property,	36 85
Office expenses, and all other expenses not included above,	2,753 89
Total Expenses of Operating,	$47,347 67

Net Income, Dividends, etc.

Total Net Income above Operating Expenses,	$10,378 29
Dividends declared (6 per cent. for the year),	8,640 00
Balance for the year, or surplus,	1,738 29
Deficit at commencement of year,	737 56
Total Surplus Sept. 30, 1890,	$1,000 73

Inventory of Equipment Sept. 30, 1890.

Box cars,	21
Open cars,	17
Horses,	94
Harnesses (pairs of),	51
Omnibus,	1
Sleighs,	4

Other articles of equipment:

Two wind-mills, 4 snow-ploughs, 2 snow-levellers, 2 safes, office furniture, etc.

General Balance Sheet Sept. 30, 1890.

Assets.

Construction,	$74,893 41
Equipment,	39,849 11
Land and buildings,	21,229 74
Cash and cash assets,	9,028 47
Total Assets,	$145,000 73

LIABILITIES.

Capital stock,	$144,000 00
Surplus,	1,000 73
TOTAL LIABILITIES,	$145,000 73

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To balance Sept. 30, 1889,	$736 56
expenses,	47,347 67
dividends,	8,640 00
balance carried forward Sept. 30, 1890,	1,000 73
	$57,725 96
CR.	
By total income,	$57,725 96
	$57,725 96

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	12.561 miles.
Aggregate length of switches, sidings, etc.,	1.465 "
Total length of track, measured as single track,	14.027 "
Weight of rail per yard, and description of rail: 30 and 40 pounds T, and 35 pounds flat.	
Description of the several lines or routes operated by the company: Haverhill depot to West Newbury. Haverhill depot to Bradford. Haverhill depot to Mt. Washington. Haverhill depot to Dustin Square. Belt line. Arlington Street line.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	12.561 miles.

MILES RUN, ETC.

Total number of miles run during the year,	166,291
Total number of passengers carried in the cars,	936,170
Total number of round trips for the year,	26,400
Number of persons regularly employed by company,	36
Rates of fare: Cash, 15, 10 and 5 cents; half-fares, 8 and 5 cents; tickets, $12\frac{1}{2}$, $6\frac{2}{7}$ and 5 cents.	

PROPER ADDRESS OF THE COMPANY.

HAVERHILL & GROVELAND STREET RAILWAY COMPANY,
3 WATER STREET, HAVERHILL, MASS.

NAME AND RESIDENCE OF OFFICERS.

Ira O. Sawyer, *President*, Haverhill, Mass. John A. Colby, *Treasurer and Clerk of Corporation*, Haverhill, Mass.

Name and Residence of Directors last elected.

Ira O. Sawyer, Haverhill, Mass. James D. White, Haverhill, Mass. John B. Nichols, Haverhill, Mass. P. C. Swett, Haverhill, Mass. John A. Colby, Haverhill, Mass. Ira A. Abbott, Haverhill, Mass. Wm. H. Smiley, Haverhill, Mass.

IRA O. SAWYER,
WM. H. SMILEY,
JOHN A. COLBY,
IRA A. ABBOTT,
Directors.

JOHN A. COLBY,
Treasurer.

Commonwealth of Massachusetts.

Essex, ss. Nov. 4, 1890. Then personally appeared the above-named Ira O. Sawyer, William H. Smiley, John A. Colby and Ira A. Abbott, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

FRANCIS H. PEARL,
Justice of the Peace.

REPORT

OF THE

HOLYOKE STREET RAILWAY COMPANY,

FOR THE YEAR ENDING SEPT. 30, 1890.

CAPITAL STOCK AND DEBT.		
CAPITAL STOCK.		
Capital stock authorized by charter,	$50,000 00	
Capital stock authorized by votes of company,	50,000 00	
Capital stock paid (par value of shares, $100),		$50,000 00
Number of stockholders,	33	
DEBT.		
Unfunded debt, as follows,		$16,500 00
Notes payable,	$16,500 00	
TOTAL GROSS DEBT,		$16,500 00
Cash,		1,474 97
NET DEBT,		$15,025 03
PERMANENT INVESTMENTS.		
RAILWAY.		
Grading and paving,		$14,185 10
Track, including timber, rails, etc., and laying,		42,057 81
TOTAL COST OF CONSTRUCTION,		$56,242 91
EQUIPMENT.		
Horses,		$9,995 00
Cars,		12,690 31
Other articles of equipment,		2,568 51
TOTAL COST OF EQUIPMENT,		$25,253 82
LAND AND BUILDINGS.		
Land and buildings owned by company needed in operating road,		$817 84
TOTAL COST OF LAND AND BUILDINGS,		$817 84
TOTAL AMOUNT OF PERMANENT INVESTMENTS,		$82,314 57
Cash assets,		1,474 97
TOTAL PROPERTY AND ASSETS OF COMPANY,		$83,789 54

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks,	$6,822 89
New horses (number, 6),	950 00
New cars (number, 2),	1,414 71
Other equipment,	60 70
Buildings,	161 27
TOTAL ADDITION TO PROPERTY,	$9,409 57
Property sold or reduced in valuation on the books, viz.,	100 00
One omnibus, $100 00	
NET ADDITION TO PROPERTY FOR THE YEAR,	$9,309 57

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,	$33,884 99
Received from advertising and hay scales,	525 97
Received from sales of manure,	300 00
TOTAL EARNINGS,	$34,710 96
Income from other sources,	2,802 00
Subscriptions for building extensions of tracks, $2,802 00	
TOTAL INCOME FROM ALL SOURCES,	$37,512 96

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$370 56
Repairs of cars and other vehicles, harness and horse-shoeing,	2,869 71
Repairs of buildings,	57 76
Renewal of horses,	820 00
Wages and salaries of treasurer, superintendent and their clerk,	1,816 00
Wages and salaries of all other persons employed in operating the road,	12,212 33
Provender,	6,798 84
Taxes, State and local,	649 11
Insurance,	223 78
Damages for injuries to persons and property,	80 00
Office expenses, and all other expenses not included above,	1,642 55
TOTAL EXPENSES OF OPERATING,	$27,540 64

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$9,972 32
Interest accrued during the year,	430 63
Dividends declared (3 per cent. for the year),	1,500 00
Balance for the year, or surplus,	8,041 69
Surplus at commencement of year,	9,247 85
TOTAL SURPLUS SEPT. 30, 1890,	$17,289 54

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	9
Open cars,	9
Horses,	64
Harnesses (pairs of),	15
Sleigh,	1
Other articles of equipment,	5
One two-horse wagon, 1 two-horse cart, 1 business wagon, 2 snow-ploughs.	

General Balance Sheet Sept. 30, 1890.

ASSETS.	
Construction,	$56,242 91
Equipment,	25,253 82
Buildings,	817 84
Cash and cash assets,	1,474 97
TOTAL ASSETS,	$83,789 54
LIABILITIES.	
Capital stock,	$50,000 00
Unfunded debt,	16,500 00
Surplus,	17,289 54
TOTAL LIABILITIES,	$83,789 54

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To expenses,	$27,540 64
interest,	430 63
dividends,	1,500 00
balance carried forward Sept. 30, 1890,	17,289 54
	$46,760 81
CR.	
By balance Sept. 30, 1889,	$9,247 85
total income,	37,512 96
	$46,760 81

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	5 898 miles.
Aggregate length of switches, sidings, etc.,	.703 mile.
Total length of track, measured as single track,	6.061 miles.
Total length of track paved,	5.465 "
Weight of rail per yard, and description of rail: 35 pounds tram; 40, 45 and 50 pounds T.	
Description of the several lines or routes operated by the company: *Main Line, South Hadley Falls* — Main and Bridge streets, County Bridge *Holyoke* — County Bridge, Bridge, Canal, Main, Dwight, High, Appleton, Pleasant and Lincoln streets. *Elmwood Branch* — High, Cabot, Maple and South streets, Brown Avenue, Laurel and Northampton streets. *South Holyoke Branch* — Main Street from Dwight to South streets.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	5.898 miles.

MILES RUN, ETC.

Total number of miles run during the year,	125,182
Total number of passengers carried in the cars,	693,419
Total number of round trips for the year,	22,920
Number of persons regularly employed by company,	30
Rates of fare,	5 cents.

LIST OF ACCIDENTS.

	From Causes beyond their own Control.		From their own Misconduct or Carelessness.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	-	-	1	-	1
Employees,	-	-	-	1	-	1
Others,	-	-	-	2	-	2

STATEMENT OF EACH ACCIDENT.

Man thrown from buggy while turning from track near bridge, while bridge was being rebuilt; slightly hurt.

Employee fell from cart loaded with paving blocks. Alleged to have been slightly hurt.

Car left on track on High Street near building that was being moved; car left with brakes locked; boys made raid on car, unlocked brakes and pushed car on one of their number; severely injured.

Passenger assaulted driver, and driver in defending himself pushed assailant off the car. The assailant's foot was said to be hurt by car-wheel.

PROPER ADDRESS OF THE COMPANY.

HOLYOKE STREET RAILWAY COMPANY,
HOLYOKE, MASS.

NAME AND RESIDENCE OF OFFICERS.

Levi Perkins, *President*, Holyoke, Mass. Wm. S. Loomis, *Superintendent and Treasurer*, Holyoke, Mass. Wm. H. Brooks, *Clerk of Corporation*, Holyoke, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Levi Perkins, Holyoke, Mass. C. H. Heywood, Holyoke, Mass. R. B. Johnson, Holyoke, Mass. J. G. Mackintosh, Holyoke, Mass. C. H. Prentiss, Holyoke, Mass. J. F. Sullivan, Holyoke, Mass. L. M. Tuttle, Holyoke, Mass. A. E. Smith, Springfield, Mass. John Olmsted, Springfield, Mass.

R. B. JOHNSON,
J. G. MACKINTOSH,
C. H. PRENTISS,
JOHN OLMSTED,
A. E. SMITH,
L. M. TUTTLE,
Directors.

WM. S. LOOMIS,
Treasurer and Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

HAMPDEN, ss. Oct. 9, 1890. Then personally appeared the above-named R. B. Johnson, J. G. Mackintosh, C. H. Prentiss, John Olmstead, A. E. Smith, L. M. Tuttle and Wm. S. Loomis, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

A. L. GREEN,
Justice of the Peace.

REPORT

OF THE

HOOSAC VALLEY STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

[Operated by electricity.]

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$50,000 00	
Capital stock authorized by votes of company,	50,000 00	
Capital stock paid (par value of shares, $100),		$50,000 00
Number of stockholders,	10	
Debt.		
Funded debt, as follows,		$50,000 00
Mortgage bonds due 1906, rate of interest 6 per cent.,	$50,000 00	
Unfunded debt, as follows,		30,000 00
Notes payable,	$30,000 00	
Total Gross Debt,		$80,000 00
Cash,		2,969 57
Net Debt,		$77,030 43
Permanent Investments.		
Railway.		
Grading and paving, and track, including timber, rails, etc., and laying,		$62,491 91
Electrical construction and equipment,		45,167 88
Fence,		162 84
Total Cost of Construction,		$107,822 63
Equipment.		
Horses,		$800 00
Cars,		7,243 58
Other articles of equipment,		5,132 16
Total Cost of Equipment,		$13,175 74
Land and Buildings.		
Land owned by company needed in operating road,		$3,600 00
Buildings owned by company needed in operating road,		3,500 00
Total Cost of Land and Buildings,		$7,100 00
Total Amount of Permanent Investments,		$128,098 37
Cash assets,		2,969 57
Total Property and Assets of Company,		$131,067 94

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Electrical equipment,		$42,760 48
Property sold or reduced in valuation on the books, viz.,		36,241 14
Reduction in value of horses,	$2,274 90	
Horses sold,	2,241 00	
Construction account reduced by payment of floating debt by stockholders,	21,725 24	
Construction account reduced from surplus,	10,000 00	
NET ADDITION TO PROPERTY FOR THE YEAR,		$6,519 34

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$30,143 73
Received from mails and express,		221 14
Received from sales of manure,		14 75
Income from other sources,		527 00
Miscellaneous,	$92 68	
Horse-shoeing,	3 37	
Interest,	133 70	
Advertising in cars,	133 75	
Special cars,	163 50	
TOTAL INCOME FROM ALL SOURCES,		$30,906 62

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,		$214 15
Repairs of cars and other vehicles, harness and horse-shoeing,		325 66
Repairs of buildings,		180 72
Repairs of motors and overhead lines,		198 97
Wages and salaries of president, treasurer, superintendent and their clerks,		2,383 20
Wages and salaries of all other persons employed in operating the road,		8,138 26
Provender,		1,328 79
Taxes, State and local,		138 78
Miscellaneous,		4,975 69
Fuel and lights,	$236 46	
Oil and waste,	136 24	
Legal,	282 01	
Power,	3,856 00	
Incidentals,	377 48	
Rent of park,	87 50	
Insurance,		209 26
Damages for injuries to persons and property,		351 00
Office expenses, and all other expenses not included above,		1,034 85
TOTAL EXPENSES OF OPERATING,		$19,479 33

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$11,427 29
Interest accrued during the year,	3,118 50
Balance for the year, or surplus,	8,308 79
Surplus at commencement of year,	5,034 05
TOTAL SURPLUS,	$13,342 84
Reduction charged to surplus,	12,274 90
TOTAL SURPLUS SEPT. 30, 1890,	$1,067 94

Inventory of Equipment Sept. 30, 1890.

Box cars,	7
Open cars,	4
Horses,	8
Harnesses (pairs of),	14
Sleigh,	1
Other articles of equipment: Two snow-ploughs.	
Number of box cars fitted with electric motors,	4
Number of open cars fitted with electric motors,	1

General Balance Sheet Sept. 30, 1890.

Assets.	
Construction,	$107,822 63
Equipment,	13,175 74
Land and buildings,	7,100 00
Cash and cash assets,	2,969 57
Total Assets,	$131,067 94
Liabilities.	
Capital stock,	$50,000 00
Funded debt,	50,000 00
Unfunded debt,	30,000 00
Surplus,	1,067 94
Total Liabilities,	$131,067 94

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

Dr.	
To balance Sept. 30, 1889,	$13,543 59
expenses,	19,479 33
interest,	3,118 50
	$36,141 42
Cr.	
By balance Sept. 30, 1889,	$5,234 80
total income,	30,906 62
	$36,141 42

Description of Railway.

Length of railway owned by company, measured as a single track, exclusive of sidings,	5.953 miles.
Aggregate length of switches, sidings, etc.,	.279 mile.
Total length of track, measured as single track,	6.232 miles.
Total length of track paved,	1,500 feet.
Weight of rail per yard, and description of rail: T, 40 pounds; flat, 40 pounds.	
Description of the several lines or routes operated by the company:	
Through Main and State streets, North Adams, and along highway to Adams, ending at head of Park Street, Adams.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	5.953 miles.

MILES RUN, ETC.	
Total number of miles run during the year,	117,450
Total number of passengers carried in the cars,	561,832
Total number of round trips for the year,	9,787½
Number of persons regularly employed by company,	15
Rates of fare: Six cents cash; tickets 5 cents each.	

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL.		FROM THEIR OWN MISCONDUCT OR CARELESSNESS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	2	-	-	-	2
Employees,	-	-	-	-	-	-
Others,	-	-	-	2	-	2

STATEMENT OF EACH ACCIDENT.

May 3, 1890. — Two men, standing on rear platform of a trail car, injured by motor car following too closely and coming in collision.

June 23. — Intoxicated man stood on track in the evening; was struck by motor car on a down grade, knocked over, and lost thumb.

June 29. — Intoxicated man stumbled and fell; one hand, resting on rail, was run over.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890? Five and nine hundred and fifty-three one-thousandths.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse-cars. By electricity alone.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Thomson-Houston; single trolley system.

Average speed of the electric cars operated by your company, where not impeded by horse-cars. Nine miles per hour.

PROPER ADDRESS OF THE COMPANY.

HOOSAC VALLEY STREET RAILWAY COMPANY,
NORTH ADAMS, BERKSHIRE COUNTY, MASS.

NAME AND RESIDENCE OF OFFICERS.

C. Q. Richmond, *President*, North Adams, Mass. H. A. Fitzsimons, *Superintendent*, Adams, Mass. C. Q. Richmond, *Treasurer*, North Adams, Mass. E. B. Hamblen, *Clerk of Corporation*, North Adams, Mass.

Name and Residence of Directors last elected.

C. Q. Richmond, North Adams, Mass. A. E. Richmond, North Adams, Mass. E. B. Hamblen, North Adams, Mass. S. Proctor Thayer, North Adams, Mass. Geo. P. Lawrence, North Adams, Mass.

E. B. HAMBLEN,
ALBERT E. RICHMOND,
S. PROCTOR THAYER,
C. Q. RICHMOND,
Directors.

C. Q. RICHMOND,
Treasurer.

H. A. FITZSIMONS,
Superintendent.

Commonwealth of Massachusetts.

Berkshire, ss. Nov. 14, 1890. Then personally appeared E. B. Hamblen, Albert E. Richmond, S. Proctor Thayer, C. Q. Richmond and H. A. Fitzsimons, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

SHEPHERD THAYER,
Justice of the Peace.

REPORT

OF THE

LOWELL HORSE RAILROAD COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.

Capital Stock.		
Capital stock authorized by charter,	$100,000 00	
Capital stock authorized by votes of company,	100,000 00	
Capital stock paid (par value of shares, $100),		$100,000 00
Number of stockholders,	64	
Debt.		
Funded debt, as follows,		$50,000 00
Bonds due 1907, rate of interest 5 per cent.,	$50,000 00	
Unfunded debt, as follows,		$90,580 95
Mortgage notes,	$6,000 00	
Company's notes,	79,832 00	
Bills payable,	2,156 95	
Unpaid dividends,	2,592 00	
Total Gross Debt,		$140,580 95
Amount of cash assets, viz.,		6,354 90
Cash,	$3,877 40	
Supplies,	2,477 50	
Net Debt,		$134,226 05
Permanent Investments.		
Railway.		
Grading and paving,		$54,558 70
Track, including timber, rails, etc., and laying,		110,329 45
Interest during construction, commissions, discounts, etc.,		1,103 91
Total Cost of Construction,		$165,992 06
Equipment.		
Horses,		$33,039 35
Cars,		41,039 50
Other articles of equipment,		5,758 73
Total Cost of Equipment,		$79,837 58
Land and Buildings.		
Land owned by company needed in operating road,		$31,251 32
Buildings owned by company needed in operating road,		3,329 61
Total Cost of Land and Buildings,		$34,580 93

TOTAL AMOUNT OF PERMANENT INVESTMENTS,		$280,410 57
Cash assets,		6,354 90
TOTAL PROPERTY AND ASSETS OF COMPANY,		$286,765 47

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks,		$3,352 60
New horses,		779 70
New cars,		14,212 65
Other equipment,		2,581 94
Land and buildings,		2,824 16
TOTAL ADDITION TO PROPERTY,		$23,751 05

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$114,354 20
Received from other railways as tolls or rent,		1,064 52
Lowell & Dracut Street Railway Company,	$1,064 52	
Received from sales of manure,		667 49
Income from other sources,		96 66
Advertising,	$96 66	
TOTAL INCOME FROM ALL SOURCES,		$116,182 87

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,		$2,039 52
Repairs of cars and other vehicles, harness and horse-shoeing,		6,786 25
Repairs of buildings,		108 97
Renewal of horses,		1,620 00
Wages and salaries of president, treasurer, superintendent and their clerks,		5,250 00
Wages and salaries of all other persons employed in operating the road,		59,195 83
Provender,		20,008 84
Taxes, State and local,		2,102 08
Rent and tolls paid other companies for use of their roads,		1,131 70
Lowell & Dracut Street Railway Company,	$1,131 70	
Insurance,		1,295 98
Damages for injuries to persons and property,		1,012 11
Office expenses, and all other expenses not included above,		8,232 14
TOTAL EXPENSES OF OPERATING,		$108,783 42

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,		$7,399 45
Interest accrued during the year,		6,859 69
Dividends declared (6 per cent. for the year),		4,023 00
Balance for the year, or deficit,		3,483 24
Surplus at commencement of year,		49,667 76
TOTAL SURPLUS SEPT. 30, 1890,		$46,184 52

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box-cars,	36
Open cars,	19
Horses,	216
Harnesses (pairs of),	49
Sleighs,	2
Other articles of equipment:	
Two snow-ploughs, 1 cart, 2 buggies, tools and office furniture.	

General Balance Sheet Sept. 30, 1890.

ASSETS.	
Construction,	$165,992 06
Equipment,	79,837 58
Land and buildings,	34,580 93
Cash and cash assets,	6,354 90
TOTAL ASSETS,	$286,765 47
LIABILITIES.	
Capital stock,	$100,000 00
Funded debt,	50,000 00
Unfunded debt,	90,580 95
Surplus,	46,184 52
TOTAL LIABILITIES,	$286,765 47

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To expenses,	$108,783 42
interest,	6,859 69
dividends,	4,023 00
balance carried forward Sept. 30, 1890,	46,184 52
	$165,850 63
CR.	
By balance Sept. 30, 1889,	$49,667 76
total income,	116,182 87
	$165,850 63

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	12.529 miles.
Aggregate length of switches, sidings, etc.,	.942 mile.
Total length of track, measured as single track,	13.471 miles.
Total length of track paved,	13.471 "
Weight of rail per yard, and description of rail: 28½, 35, 45, 48, 50 and 54 pounds.	
Description of the several lines or routes operated by the company: Chelmsford Street. Middlesex and Pawtucket streets. Centralville and Westford streets. Broadway, Gorham Street and Belvidere.	
Length of railway belonging to other companies, measured as single track, not including sidings, etc., operated by this company, or over which this company runs its cars, with the description of same,	1.46 miles.
Bridge Street from post office to River Street. Merrimack Street from post office to High Street. Central Street from Prescott Street to Jackson Street. Prescott Street. Merrimack street from post office to Cabot Street. Middlesex Street from depot to Coral Street.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	13.989 miles.

Miles Run, etc.	
Total number of miles run during the year,	536,213
Total number of passengers carried in the cars,	2,287,084
Total number of round trips for the year,	67,264
Number of persons regularly employed by company,	135 /
Rates of fare,	5 cents.

List of Accidents.

	From Causes beyond their own Control.		From their own Misconduct or Carelessness.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	-	-	2	-	2
Employees,	-	-	-	-	-	-
Others,	-	-	-	4	-	4

Statement of Each Accident.

March 21, 1890. A man slipped from the platform of a moving car and dislocated his shoulder.

May 8. — A man in attempting to get on a moving car slipped and was dragged a short distance.

June 13. — A man in jumping from a moving car slipped, fell and injured his face.

July 28. — In going down grade a car got beyond the control of the driver and dashed into another car. One man jumped and injured his leg.

August 25. — A wagon backed into a moving car and was broken.

September 12. — A lady, in reaching for an umbrella accidentally dropped, fell and injured her face.

Proper Address of the Company.

LOWELL HORSE RAILROAD COMPANY,

Lowell, Mass.

Name and Residence of Officers.

Edward M. Tucke, *President*, Lowell, Mass. Edward J. Noyes, *Superintendent*, Lowell, Mass. Walter M. Sawyer, *Treasurer and Clerk of Corporation*, Lowell, Mass.

Name and Residence of Directors last elected.

Edward M. Tucke, Lowell, Mass. Ethan A. Smith, Lowell, Mass. Thomas Costello, Lowell, Mass. Walter M. Sawyer, Lowell, Mass. Solomon Bachman, New York, N. Y.

EDWARD M. TUCKE,
W. M. SAWYER,
THOMAS COSTELLO,
Directors.

W. M. SAWYER,
Treasurer.

EDWARD J. NOYES,
Superintendent.

Commonwealth of Massachusetts.

Middlesex, ss. Lowell, Nov. 5, 1890. Then personally appeared Edward M. Tucker, Walter M. Sawyer, Thomas Costello and Edward J. Noyes, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

CHAS. S. LILLEY,
Justice of the Peace.

REPORT

OF THE

LOWELL & DRACUT STREET RAILWAY COMPANY,

For the Year Ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$200,000 00	
Capital stock authorized by votes of company,	200,000 00	
Capital stock paid (par value of shares, $100),		$200,000 00
Number of stockholders,	57	
Debt.		
Funded debt, as follows,		$50,000 00
Bonds due 1909, rate of interest, 5 per cent.,	$50,000 00	
Unfunded debt, as follows,		60,064 06
Company's notes,	$57,281 00	
Bills payable,	2,783 06	
Total Gross Debt,		$110,064 06
Amount of cash assets, viz.,		7,724 47
Cash,	$2,343 24	
Supplies,	5,381 23	
Net Debt,		$102,339 59
Permanent Investments.		
Railway.		
Electric line, $17,065.14; track and grading electric line, $37,961.35,		$55,026 49
Track, including timber, rails, etc , and laying,		99,189 07
Interest during construction, commissions, discounts, etc.,		5,049 63
Engineering, agencies, salaries and other expenses during construction,		5,889 11
Total Cost of Construction,		$165,154 30
Equipment.		
Horses,		$73,873 05
Cars (electric, $44,806.36; horse, $30,346.53),		75,152 89
Other articles of equipment,		5,057 70
Total Cost of Equipment,		$104,083 64
Land and Buildings.		
Land owned by company needed in operating road,		$12,152 83
Buildings owned by company needed in operating road,		29,512 52
Total Cost of Land and Buildings,		$41,665 35
Total Amount of Permanent Investments,		$310,903 29
Cash assets,		7,724 47
Total Property and Assets of Company,		$318,627 76

Property Accounts: Charges and Credits during the Year.

Extension of tracks,		$21,154 62
New cars and motors,		20,808 47
Total Addition to Property,		$41,963 09
Property sold or reduced in valuation on the books, viz.,		2,942 67
Horses reduced,	$421 50	
Equipment sold,	480 39	
Land and buildings,	2,040 78	
Net Addition to Property for the Year,		$39,020 42

Revenue for the Year.

Received from passengers on railways operated by this company,		$95,476 25
Received from other railways as tolls or rent,		1,131 70
Lowell Horse Railroad Company,	$1,131 70	
Received from sales of manure,		655 83
Income from other sources,		133 50
Rents,	$133 50	
Total Income from All Sources,		$97,397 28

Expenses of Operating for the Year.

Repairs of road-bed and track,		$2,443 07
Repairs of cars and other vehicles, harness and horse-shoeing,		7,759 05
Repairs of buildings,		488 88
Renewal of horses,		421 50
Wages and salaries of president, treasurer, superintendent and their clerks,		2,500 00
Wages and salaries of all other persons employed in operating the road,		39,322 59
Provender,		9,679 73
Taxes, State and local,		1,134 69
Rent and tolls paid other companies for use of their roads,		1,064 52
Lowell Horse Railroad Company,	$1,064 52	
Insurance,		1,850 20
Damages for injuries to persons and property,		2,186 62
Office expenses, and all other expenses not included above,		13,317 81
Total Expenses of Operating,		$82,168 66

Net Income, Dividends, etc.

Total Net Income above Operating Expenses,	$15,228 62
Interest accrued during the year,	7,888 95
Dividends declared (6 per cent. for the year),	6,141 00
Balance for the year, or surplus,	1,198 67
Surplus at commencement of year,	7,365 03
Total Surplus Sept. 30, 1890,	$8,563 70

Inventory of Equipment Sept. 30, 1890.

Box cars,	21
Open cars,	29
Horses,	134
Harnesses (pairs of),	35
Other articles of equipment:	
Two snow-ploughs, 1 steam engine, tools of all kinds and office furniture.	
Number of box cars fitted with electric motors,	4
Number of open cars fitted with electric motors,	14

General Balance Sheet Sept. 30, 1890.

Assets.	
Construction,	$165,154 30
Equipment,	104,083 64
Land and buildings,	41,665 35
Cash and cash assets,	7,724 47
TOTAL ASSETS,	$318,627 76

Liabilities.	
Capital stock,	$200,000 00
Funded debt,	50,000 00
Unfunded debt,	60,064 06
Surplus,	8,563 70
TOTAL LIABILITIES,	$318,627 76

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

Dr.	
To expenses,	$82,168 66
interest,	7,888 95
dividends,	6,141 00
balance carried forward Sept. 30, 1890,	8,563 70
	$104,762 31

Cr.	
By balance Sept. 30, 1889,	$7,365 03
total income,	97,397 28
	$104,762 31

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	12.738 miles.
Aggregate length of switches, sidings, etc.,	.933 mile.
Total length of track, measured as single track,	13.671 miles.
Total length of track paved,	9.818 "

Weight of rail per yard and description of rail: 35 and 40 pounds flat: 50 pounds T; 60 Prov. girder.

Description of the several lines or routes operated by the company:

Merrimack Street to Lakeview Avenue (electric).
Pawtucketville and Fort Hill Park.
Highlands and cemetery.

Length of railway belonging to other companies, measured as single track, not including sidings, etc., operated by this company, or over which this company runs its cars, with the description of same,	1.46 miles.

Bridge Street from post office to River Street.
East Merrimack Street from post office to High Street.
Central Street from Prescott Street to Jackson Street.
Merrimack Street from post office to Cabot Street.
Dutton and Fletcher streets from Merrimack Street to Middlesex Street.
Middlesex Street from depot to Coral Street.

Total length of railway, measured as single track, not including sidings, etc., operated by this company,	14.198 miles.

Miles Run, etc.	
Total number of miles run during the year,	452,445
Total number of passengers carried in the cars,	1,869,308
Total number of round trips for the year,	64,307
Number of persons regularly employed by company,	90
Rates of fare: 4 and 5 cents; round trip tickets, 25 cents.	

List of Accidents.

	From Causes beyond their own Control.		From their own Misconduct or Carelessness.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	–	–	–	6	–	6
Employees,	–	–	–	–	–	–
Others,	–	–	–	3	–	3

Statement of Each Accident.

April 10, 1890. — A child walking with its father ran from the latter toward a car in motion, and was injured by one of the wheels.

May 10. — A man when in the act of getting off a car, the latter at a standstill, fell and injured his face.

June 5. — A woman when in the act of getting off a car, the latter at a standstill, slipped on the pavement and injured her leg.

June 7. — A man in attempting to get off a car, the latter moving slowly, pushed another, who fell and injured his leg.

July 6. — A wagon, in turning a short corner, collided with an electric car; the former was injured in one wheel.

July 6. — A man fell from the platform of an open car and injured his leg.

July 14. A man, in attempting to get off a car before the latter had stopped, slipped, fell and injured his face.

July 18. — A man, in attempting to get off a car before the latter had stopped, slipped, fell and injured his leg.

August 11. — A child escaped from its mother and ran toward the horses of a moving car; struck the whiffletrees and fell; only slightly injured.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890? Five and twenty-one one-hundredths miles.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse-cars. Solely by electric cars.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Overhead; single trolley system; Bentley Knight.

Average speed of the electric cars operated by your company, where not impeded by horse cars. Eight miles per hour.

Proper Address of the Company.

LOWELL & DRACUT STREET RAILWAY COMPANY,
Lowell, Mass.

Name and Residence of Officers.

August Fels, *President*, Lowell, Mass. E. J. Noyes, *Superintendent*, Lowell, Mass. Percy Parker, *Treasurer*, Lowell, Mass. P. F. Sullivan, *Clerk of Corporation*, Lowell, Mass.

Name and Residence of Directors last elected.

August Fels, Lowell, Mass. Percy Parker, Lowell, Mass. Miles F. Bresman, Lowell, Mass. S. B. Puffer, Lowell, Mass. Frank W. Howe, Lowell, Mass. John Lennon, Lowell, Mass. P. F. Sullivan, Lowell, Mass.

AUGUST FELS,
PERCY PARKER,
FRANK W. HOWE,
STEPHEN B. PUFFER,
PATRICK F. SULLIVAN,
Directors.

PERCY PARKER,
Treasurer.

EDWARD J. NOYES,
Superintendent.

Commonwealth of Massachusetts.

Middlesex, ss. Lowell, Nov. 5, 1890. Then personally appeared August Fels, Percy Parker, Frank W. Howe, Stephen B. Puffer, Patrick F. Sullivan and Edward J. Noyes, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

CHAS. S. LILLEY,
Justice of the Peace.

REPORT

OF THE

LYNN BELT LINE SRTEET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

[Road began operating May 30, 1890. Operated by electricity.]

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$40,000 00	
Capital stock authorized by votes of company,	100,000 00	
Capital stock paid (par value of shares, $100),		$87,150 00
Number of stockholders,	76	
Debt.		
Funded debt, as follows,		$70,000 00
Mortgage bonds due 1910, rate of interest 5 per cent.,	$70,000 00	
Unfunded debt, as follows,		3,550 00
Notes payable,	$2,400 00	
Loans,	1,150 00	
Total Gross Debt,		$73,550 00
Amount of cash assets, viz.:		7,334 89
Cash,	$879 75	
Debit balances,	6,455 14	
Net Debt,		$66,215 11
Permanent Investments.		
Railway.		
Total Cost of Construction,		$81,161 40
Equipment.		
Cars, $7,500; electric equipment of cars, $33,500,		$41,000 00
Other articles of equipment,		15,720 51
Total Cost of Equipment,		$56,720 51
Land and Buildings.		
Land and buildings owned by company needed in operating road,		$18,651 21
Total Cost of Land and Buildings,		$18,651 21
Other Property.		
House and lot,		$3,200 00

Total Amount of Permanent Investments,	$159,733 12
Cash assets,	7,334 89
Total Property and Assets of Company,	$167,068 01

Property Accounts: Charges and Credits during the Year.

Extension of tracks,		$47,019 78
New horses (number, 2),		275 00
New cars and electric equipment (number, 10),		41,000 00
Other equipment,		15,720 51
Land and buildings,		20,251 21
Total Addition to Property,		$124,266 50
Property sold or reduced in valuation on the books, viz.,		361 34
Rebate on and sale of iron,	$361 34	
Net Addition to Property for the Year,		$123,905 16

Revenue from May 30 to Sept. 30, 1890.

Received from passengers on railways operated by this company,		$16,950 10
Total Earnings,		$16,950 10
Income from other sources,		64 00
Rents,	$64 00	
Total Income from All Sources,		$17,014 10

Expenses of Operating from May 30 to Sept. 30, 1890.

Wages and salaries of superintendent and clerks,	$703 60
Wages and salaries of all other persons employed in operating the road,	6,701 20
Insurance,	86 25
Damages for injuries to persons and property,	54 84
Office expenses, and all other expenses not included above,	3,100 20
Total Expenses of Operating,	$10,646 09

Net Income, Dividends, etc.

Total Net Income above Operating Expenses,	$6,368 01
Balance for the year, or surplus,	6,368 01
Total Surplus Sept. 30, 1890,	$6,368 01

Inventory of Equipment Sept. 30, 1890.

Box cars,	4
Open cars,	6
Number of box cars fitted with electric motors,	4
Number of open cars fitted with electric motors,	6

General Balance Sheet Sept. 30, 1890.

Assets.

Construction,	$81,161 40
Equipment,	56,720 51
Land and buildings,	18,651 21
Other property,	3,200 00
Cash and cash assets,	7,334 89
Total Assets,	$167,068 01

Liabilities.

Capital stock,	$87,150 00
Funded debt,	70,000 00
Unfunded debt,	3,550 00
Surplus,	6,368 01
Total Liabilities,	$167,068 01

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

Dr.

To expenses,	$10,646 09
balance carried forward Sept. 30, 1890,	6,368 01
	$17,014 10

Cr.

By total income,	$17,014 10
	$17,014 10

Description of Railway.

Length of railway owned by company, measured as a single track, exclusive of sidings,	6.29 miles.
Aggregate length of switches, sidings, etc.,	.40 mile.
Total length of track, measured as single track,	6.69 miles.
Total length of track paved,	4.11 "
Weight of rail per yard, and description of rail: 45 pounds, steel.	
Description of the several lines or routes operated by the company:	
Belt line, passing all depots.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	6.29 miles.

Miles Run, etc.

Total number of miles run from May 30 to Sept. 30,	64,109
Total number of passengers carried in the cars,	344,756
Total number of round trips from May 30 to Sept. 30,	10,123
Number of persons regularly employed by company,	35
Rates of fare, round trip,	5 cents.

Statement of Each Accident.

July, 1, 1890. — Lady fell while leaving car; fall caused by her dress hooking on gong knob.

July 15. — Car collided with grocery wagon, breaking shaft and damaging front part of wagon.

July 16. — Lady fell from car while attempting to leave front platform; dress caught on brake knob and threw her.

July 21. — Carriage and pair driving on street at right angles to railway; driver did not hear car gong; car struck the carriage, tipping it over and throwing the occupants; no limbs broken.

July 27. Boy received a slight shock.

August 21. Man stepped off the car while in motion, with basket in his hand; fell and hurt his right arm.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890? Six and sixty-nine one-hundredths miles.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse-cars. Solely by electricity.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Thomson-Houston; single trolley.

Average speed of the electric cars operated by your company, where not impeded by horse cars. About seven miles per hour.

Proper Address of the Company.

LYNN BELT LINE STREET RAILWAY COMPANY,
189 Market Street, Lynn, Mass.

Name and Residence of Officers.

Quincey A. Towns, *President*, Lynn, Mass. Alphonso Martin, *Superintendent*, Lynn, Mass. Wm. B. Littlefield, *Treasurer*, Lynn, Mass. Geo. H. Breed, *Clerk of Corporation*, Lynn, Mass.

Name and Residence of Directors last elected.

Quincey A. Towns, Lynn, Mass. Wm. B. Littlefield, Lynn, Mass. Geo. H. Breed, Lynn, Mass. Frank W. Jones, Lynn, Mass. Chas. O. Beede, Lynn, Mass. Geo. Fuller, Lynn, Mass. Frederick J. Cushing, Lynn, Mass.

QUINCEY A. TOWNS,
WILLIAM B. LITTLEFIELD,
GEORGE H. BREED,
FREDERICK J. CUSHING,
FRANK W. JONES,
Directors.
WILLIAM B. LITTLEFIELD,
Treasurer.
ALPHONSO MARTIN,
Superintendent.

Commonwealth of Massachusetts.

Essex, ss. Lynn, Nov. 5, 1890. Then personally appeared Quincey A. Towns, William B. Littlefield, Frederick J. Cushing and Alphonso Martin, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

GEORGE H. BREED,
Justice of the Peace.

COMMONWEALTH OF MASSACHUSETTS.

ESSEX, ss. LYNN, Nov. 6, 1890. Then personally appeared Geo. H. Breed, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

BENJAMIN PITMAN,
Justice of the Peace.

REPORT

OF THE

LYNN & BOSTON RAILROAD COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.

Capital Stock.		
Capital stock authorized by charter,	$500,000 00	
Capital stock authorized by votes of company,*	500,000 00	
Capital stock paid (par value of shares, $100),		$500,000 00
Number of stockholders,	158	
Debt.		
Funded debt, as follows,		$425,000 00
Mortgage bonds due May 15, 1890, rate of interest 6 per cent.,	$75,000 00	
Bonds due May 1, 1893, rate of interest 5 per cent.,	100,000 00	
Bonds due May 15, 1890, rate of interest 5 per cent.,	150,000 00	
Bonds due April 1, 1907, rate of interest 5 per cent.,	100,000 00	
Unfunded debt, as follows,		103,164 10
Notes payable,	$20,000 00	
Sundry bills payable,	76,798 46	
Tickets outstanding,	6,365 64	
Total Gross Debt,		$528,164 10
Amount of cash assets, viz.,		37,577 22
Cash,	$7,280 37	
Supplies,	25,820 51	
Debit balances,	4,476 34	
Net Debt,		$490,586 88
Permanent Investments.		
Railway.		
Grading and paving and track, including timber, rails, etc., and laying,		$552,858 89
Other railways purchased,		15,409 27
Total Cost of Construction,		$568,268 16
Equipment.		
Horses,		$95,200 00
Cars,		116,600 00
Other articles of equipment,		117,142 23
Total Cost of Equipment,		$328,942 23

---

* Was increased $100,000 June 4, 1890.

Land and Buildings.

Land and buildings owned by company needed in operating road,		$176,474 15
Total Cost of Land and Buildings,		$176,474 15
Total Amount of Permanent Investments,		$1,073,684 54
Cash assets,		37,577 22
Total Property and Assets of Company,		$1,111,261 76

Property Accounts: Charges and Credits during the Year.

Extension of tracks (number of feet, 8,617.4),		$17,031 29
New horses (number, 56),		5,600 00
New cars (number, 14),		6,400 00
Other equipment,		54,548 79
Land and buildings,		234 42
Total Addition to Property,		$83,814 50
Property sold or reduced in valuation on the books, viz.,		8 00
One old sleigh sold,	$8 00	
Net Addition to Property for the Year,		$83,806 50

Revenue for the Year.

Received from passengers on railways operated by this company,		$575,669 17
Received from other railways as tolls or rent,		1,872 84
East Middlesex Street Railway Company,	$902 94	
Naumkeag Street Railway Company,	568 26	
West End Street Railway Company,	401 64	
Received from sales of manure,		3,513 15
Total Earnings,		$581,055 16
Income from other sources,		2,426 66
Advertising in cars,	$2,426 66	
Total Income from All Sources,		$583,481 82

Expenses of Operating for the Year.

Repairs of road-bed and track,		$46,322 74
Repairs of cars and other vehicles, harness and horse-shoeing,		46,906 10
Repairs of buildings,		1,756 64
Renewal of horses,		19,545 00
Wages and salaries of president, treasurer, superintendent and their clerks,		15,070 28
Wages and salaries of all other persons employed in operating the road,		228,471 25
Provender,		67,261 93
Taxes, State and local,		9,597 01
Rent and tolls paid other companies for use of their roads,		25,028 72
West End Street Railway Company,	$11,717 85	
Boston & Chelsea Railroad Company,	9,235 20	
Winnisimmet Railroad Company,	4,075 67	
Insurance,		4,234 13
Damages for injuries to persons and property,		5,249 58
Office expenses, and all other expenses not included above,		36,552 73
Total Expenses of Operating,		$505,996 11

Net Income, Dividends, etc.

Total Net Income above Operating Expenses,	$77,485 71
Interest accrued during the year,	26,834 70
Dividends declared (8 per cent. for the year on $400,000),	32,000 00
Balance for the year, or surplus,	18,651 01
Surplus at commencement of year,	64,446 65
Total Surplus Sept. 30, 1890,	$83,097 66

Inventory of Equipment Sept. 30, 1890.

Box cars,	112
Open cars,	130
Horses,	952
Harnesses (pairs of),	260
Sleighs,	5
Other articles of equipment:	
Twenty-four snow-ploughs, 19 snow-sleds, 10 snow-levellers, 12 wagons, 7 tip-carts, buggies, gravel car, watering-car, steam engine and boilers, machinery and piping in repair shop, tools for wood, paint and blacksmith shops, and track repairs, horse collars, blankets, surcingles, halters, light harnesses, stable and office furniture, telephone line, electrical equipment, etc.	
Number of box cars fitted with electric motors,	7
Number of open cars fitted with electric motors,	6
Number of electric snow-ploughs (the motors came from open car),	1

General Balance Sheet Sept. 30, 1890.

Assets.

Construction,	$568,268 16
Equipment,	328,942 23
Land and buildings,	176,474 15
Cash and cash assets,	37,577 22
Total Assets,	$1,111,261 76

Liabilities.

Capital stock,	$500,000 00
Funded debt,	425,000 00
Unfunded debt,	103,164 10
Surplus,	83,097 66
Total Liabilities,	$1,111,261 76

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

Dr.

To expenses,	$505,996 11
interest,	26,834 70
dividends,	32,000 00
balance carried forward Sept. 30, 1890,	83,097 66
	$647,928 47

Cr.

By balance Sept. 30, 1889,	$64,446 65
total income,	583,481 82
	$647,928 47

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,		50.393 miles.
Aggregate length of switches, sidings, etc.,		3.350 "
Total length of track, measured as single track,		53.743 "
Total length of track paved,		42.800 "
Weight of rail per yard and description of rail: Steel rail, 35 to 50 pounds; T rail, 28 to 45 pounds.		
Description of the several lines or routes operated by the company: West Lynn and Marblehead; West Lynn and Swampscott; Swampscott, Lynn and Boston; Upper Swampscott, East Saugus and Saugus Centre; Upper Swampscott, East Saugus and Cliftondale; Myrtle Street and Central Square, via Boston Street; Myrtle Street and Glenmere; *Myrtle Street and Lewis Street; *Myrtle Street and Nahant Beach; *Wyoma and West Lynn; Peabody and Lynn; *Central Square and Nahant Beach (in summer); *Lynn Highlands and Market Street; Revere and Boston; Crescent Beach and Boston; Revere Beach and Boston (in summer); *Ocean Avenue (in summer); Beachmont and Boston; Boston and Chelsea, via Broadway; Boston and Chelsea, via Washington Avenue, and to Woodlawn Cemetery; Everett and Chelsea.		
Length of railway belonging to other companies, measured as single track, not including sidings, etc., operated by this company, or over which this company runs its cars, with the description of same,		9.927 miles.
Boston and Chelsea Railroad,	4.354 miles.	
West End Street Railway,	3.463 "	
Winnisimmet Railroad,	1.883 "	
Naumkeag Street Railway,	.227 mile.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,		60.310 "

MILES RUN, ETC.

Total number of miles run during the year,	1,841,285
Total number of passengers carried in the cars,	11,292,333
Total number of round trips for the year,	227,607
Number of persons regularly employed by company,	430
Rates of fare,	5 and 15 cents.

* Electric lines.

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL.		FROM THEIR OWN MISCONDUCT OR CARELESSNESS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	–	1	–	9	–	10
Employees,	–	–	–	–	–	–
Others,	–	–	–	6	–	6

STATEMENT OF EACH ACCIDENT.

Oct. 16, 1889. — Woman stepping from car, caught her dress and fell; slight injuries.

October 25. — Little girl, playing in street, ran up to and against front end of moving car; was knocked down and received injury to leg.

December 31. — Woman leaving car, caught her dress and fell; slight injuries.

Jan. 9, 1890. — Woman carelessly left a moving car by the front door and platform, notwithstanding the conductor tried to stop her; fell and was injured.

February 22. — Man thought to be under the influence of liquor attempted to board the front end of a moving car; slipped and fell; foot injured.

February 27. — Woman fell while leaving a car before it had stopped; sprained wrist and bruised knee.

April 20. — Small boy attempted to run across street in front of moving car; slipped, fell, and car ran over his leg; amputated at hospital and boy died.

May 17. — Man on front platform stooped down to pick up bundle unknown to driver, who, letting off brake suddenly, caused passenger to be struck on head by brake handle.

May 23. — Woman with child in her arms caught her dress, in leaving car, and fell; child slightly injured.

June 29. — Man started to cross street in front of an approaching electric car; suddenly stopped and attempted to retrace his steps; was knocked down by car and received slight injuries to his head.

July 2. — A street laborer ran directly in front of moving car and was knocked down by car; slight injuries.

July 15. — By the shying of car horses, a man who was riding on the foot board of open car had his leg injured by the eveners.

July 24. — Woman stepped from car, before it stopped, and wrenched her knee.

July 30. — Woman jumped from moving car; fell and fractured her arm.

July 30. — Man attempted to pass by others standing on footboard of open car, in motion, and was struck by telegraph pole; head injured.

August 16. — Collision between car and wagon; driver of wagon thrown off and somewhat injured.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890? 17.8114 miles.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse cars. 3.7507 exclusive; 14.0607 part horses.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Thomson-Houston; overhead; single trolley.

Number of miles of track for electric railway under construction Sept. 30, 1890. .9397 miles.

Name of system. Thomson-Houston.

Average speed of the electric cars operated by your company, where not impeded by horse cars. Eight miles an hour.

PROPER ADDRESS OF THE COMPANY.

LYNN & BOSTON RAILROAD COMPANY,
13 TREMONT ROW, ROOM 3, BOSTON, MASS.

NAME AND RESIDENCE OF OFFICERS.

Amos F. Breed, *President*, Lynn, Mass. Elwin C. Foster, *Superintendent*, Revere, Mass. E. Francis Oliver, *Treasurer and Clerk of Corporation*, Boston, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Amos F. Breed, Lynn, Mass. Philip A. Chase, Lynn, Mass. Aza A. Breed, Lynn, Mass. John S. Bartlett, Lynn, Mass. Charles H. Newhall, Lynn, Mass. Alfred A. Mower, Lynn, Mass. Micajah P. Clough, Lynn, Mass. *William R. Pearmain, Chelsea, Mass. William Sprague, Boston, Mass. John Reed, Boston, Mass. Thomas P. Proctor, Boston, Mass. E. Francis Oliver, Boston, Mass.

AMOS F. BREED,
THOS. P. PROCTOR,
JOHN S. BARTLETT,
WM. SPRAGUE,
PHILIP A. CHASE,
E. FRANCIS OLIVER,
Directors.
E. FRANCIS OLIVER,
Treasurer.
ELWIN C. FOSTER,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Nov. 5, 1890. Then personally appeared Amos F. Breed, Thos. P. Proctor, John S. Bartlett, William Sprague, E. Francis Oliver, Elwin C. Foster and Philip A. Chase, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

BENTLEY W. WARREN,
Justice of the Peace.

---

* Deceased April 15, 1890.

REPORT

OF THE

MANET STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

[Operated by electricity.]

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$35,000 00	
Capital stock authorized by votes of company,	35,000 00	
Capital stock paid (par value of shares, $100),		$35,000 00
Number of stockholders,	23	
Debt.		
Unfunded debt, as follows,		$11,185 84
Credit balances,	$11,185 84	
Total Gross Debt,		$11,185 84
Amount of cash assets, viz.,		1,348 80
Cash,	$638 70	
Supplies,	709 75	
Debit balances,	35	
Net Debt,		$9,837 04
Permanent Investments.		
Railway.		
Grading and paving,		$4,083 55
Track, including timber, rails, etc., and laying,		19,230 58
Interest during construction, commissions, discounts, etc.,		93 33
Engineering, agencies, salaries and other expenses during construction,		2,450 36
Total Cost of Construction,		$25,857 82
Equipment.		
Cars,		$8,673 54
Other articles of equipment,		9,188 20
Total Cost of Equipment,		$17,861 74
Land and Buildings.		
Land owned by company needed in operating road,		$1,826 00
Buildings owned by company needed in operating road,		1,183 92
Total Cost of Land and Buildings,		$3,009 92
Total Amount of Permanent Investments,		$46,729 48
Cash assets,		1,348 80
Total Property and Assets of Company,		$48,078 28

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.		
Extension of tracks,		$25,857 82
New cars,		8,673 54
Other equipment,		9,188 20
Land and buildings,		3,009 92
TOTAL ADDITION TO PROPERTY,		* $46,729 48
REVENUE FOR THE YEAR.		
Received from passengers on railways operated by this company,		$3,917 23
TOTAL EARNINGS,		$3,917 23
Income from other sources,		5 50
Advertising in cars,	$5 50	
TOTAL INCOME FROM ALL SOURCES,		$3,922 73
EXPENSES OF OPERATING FOR THE YEAR.		
Repairs of road-bed and track,		$15 28
Repairs of cars and other vehicles, harness and horse-shoeing,		34 25
Wages and salaries of president, treasurer, superintendent and their clerks,		200 00
Wages and salaries of all other persons employed in operating the road,		846 37
Insurance,		95 80
Damages for injuries to persons and property,		33 65
Office expenses, and all other expenses not included above, including electric power,		804 94
TOTAL EXPENSES OF OPERATING,		$2,030 29
NET INCOME, DIVIDENDS, ETC.		
TOTAL NET INCOME ABOVE OPERATING EXPENSES,		$1,892 44
Balance for the year, or surplus,		1,892 44
TOTAL SURPLUS SEPT. 30, 1890,		$1,892 44
INVENTORY OF EQUIPMENT SEPT. 30, 1890.		
Box cars,		1
Open cars,		3
Number of box cars fitted with electric motors,		1
Number of open cars fitted with electric motors,		1

General Balance Sheet Sept. 30, 1890.

ASSETS.	
Construction,	$25,857 82
Equipment,	17,861 74
Land and buildings,	3,009 92
Cash and cash assets,	1,348 80
TOTAL ASSETS,	$48,078 28
LIABILITIES.	
Capital stock,	$35,000 00
Unfunded debt,	11,185 84
Surplus,	1,892 44
TOTAL LIABILITIES,	$48,078 28

---

* Built during the year.

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

Dr.	
To expenses,	$2,030 29
balance carried forward Sept. 30, 1890,	1,892 44
	$3,922 73
Cr.	
By total income,	$3,922 73
	$3,922 73

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	3.60 miles.
Aggregate length of switches, sidings, etc.,	.15 mile.
Total length of track, measured as single track,	3.75 miles.
Total length of track paved,	.63 mile.
Weight of rail per yard, and description of rail: Johnson rail on paved portion 45 pounds to the yard; remainder, 35 pounds T rail.	
Description of the several lines or routes operated by the company:	
Line runs from square near Quincy depot to car house at Hough's Neck, Quincy, through Hancock, Washington, Coddington and Sea streets and Manet Avenue.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	3.60 miles.

MILES RUN, ETC.

Total number of miles run during the year,	3,700
Total number of passengers carried in the cars,	41,780
Total number of round trips for the year,	1,028
Number of persons regularly employed by company,	6
Rates of fare,	5 and 10 cents.

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL.		FROM THEIR OWN MISCONDUCT OR CARELESSNESS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	1	-	-	-	1
Employees,	-	-	-	-	-	-
Others,	-	-	-	-	-	-

STATEMENT OF EACH ACCIDENT.

Car jumped track on curve and one passenger caught his thumb in some way in wire guard to window, injuring him slightly.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890 ? Three and seventy-five one-hundredths.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse cars. Solely by electricity.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Sprague system; single trolley.

Average speed of the electric cars operated by your company, where not impeded by horse cars. Ten or eleven miles per hour.

Proper Address of the Company.

MANET STREET RAILWAY COMPANY,
52 Commercial Street, Boston, Mass.

Name and Residence of Officers.

Albert D. S. Bell, *President*, Newton, Mass. Geo. W. Morton, *Superintendent*, Quincy, Mass. Chas. A. Potter, *Treasurer*, South Framingham, Mass. A. D. McClellan, *Clerk of Corporation*, Boston, Mass.

Name and Residence of Directors last elected.

Albert D. S. Bell, Newton, Mass. Geo. W. Morton, Quincy, Mass. J. D. Taber, Quincy, Mass. F. D. Maynard, Somerville, Mass. James E. Lyon, Winchester, Mass.

A. D. S. BELL,
GEORGE W. MORTON,
J. E. LYON,
F. D. MAYNARD,
Directors.
CHAS. A. POTTER,
Treasurer.
GEORGE W. MORTON,
Superintendent.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Oct. 24, 1890. Then personally appeared A. D. S. Bell, George W. Morton, J. E. Lyon, F. D. Maynard, directors, Chas. A. Potter, treasurer, and George W. Morton, superintendent, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

ARTHUR D. McCLELLAN,
Justice of the Peace.

REPORT

OF THE

MALDEN & MELROSE RAILROAD COMPANY,

FOR THE YEAR ENDING SEPT. 30, 1890.

[Operated by the West End Street Railway Company.]

CAPITAL STOCK AND DEBT.

CAPITAL STOCK.

Capital stock authorized by charter,	$200,000 00	
Capital stock authorized by votes of company,	* 200,000 00	
Capital stock paid (par value of shares, $100),		$200,000 00
Number of stockholders,	51	

PERMANENT INVESTMENTS.

RAILWAY.

TOTAL COST OF CONSTRUCTION,	$165,500 00

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$165,500 00
Deficit,	34,500 00
TOTAL ASSETS,	$200,000 00

LIABILITIES.

Capital stock,	$200,000 00
TOTAL LIABILITIES,	$200,000 00

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	6.287 miles.
Aggregate length of switches, sidings, etc.,	.473 mile.
Total length of track, measured as single track,	6.76 miles.

PROPER ADDRESS OF THE COMPANY.

MALDEN & MELROSE RAILROAD COMPANY
(Care CHARLES E. POWERS),
27 TREMONT ROW, BOSTON, MASS.

---

* This item has for some years, through mistake, been reported as $165,500. It should be as above, and accords with the books of the company, although it leaves a deficit on the balance sheet.

Name and Residence of Officers.

Charles E. Powers, *President and Treasurer,* Boston, Mass. James H. McFarland, *Clerk of Corporation*, Boston, Mass.

Name and Residence of Directors last elected.

Marcellus Coggan, Malden, Mass. Henry M. Whitney, Brookline, Mass. Linus M. Child, Boston, Mass. John H. Studley, Boston, Mass. Charles E. Powers, Boston, Mass.

CHAS. E. POWERS,
L. M. CHILD,
MARCELLUS COGGAN,
Directors.
CHAS. E. POWERS,
Treasurer.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Nov. 25, 1890. Then personally appeared Linus M. Child, Marcellus Coggan and Charles E. Powers, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

MELVILLE P. BECKETT,
Justice of the Peace.

REPORT

OF THE

MARLBOROUGH STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

[Operated by electricity.]

CAPITAL STOCK AND DEBT.

Capital Stock.

Capital stock authorized by charter,	$50,000 00	
Capital stock authorized by votes of company,	50,000 00	
Capital stock paid (par value of shares, $100),		$50,000 00
Number of stockholders,	7	

Debt.

Funded debt, as follows,		$50,000 00
Bonds due July 1, 1909, rate of interest 6 per cent.,	$50,000 00	
Unfunded debt, as follows,		6,947 89
Accounts payable,	$6,947 89	
Total Gross Debt,		$56,947 89
Amount of cash assets, viz.,		3,426 32
Cash,	$816 30	
Supplies,	2,610 02	
Net Debt,		$53,521 57

Permanent Investments.

Railway.

Grading and paving,	$4,562 27
Track, including timber, rails, etc., and laying,	41,812 66
Engineering, agencies, salaries and other expenses during construction,	914 00
Total Cost of Construction,	$47,288 93

Equipment.

Cars,	$22,278 05
Other articles of equipment,	31,699 34
Total Cost of Equipment,	$53,977 39

Land and Buildings.

Land owned by company needed in operating road,	$980 00
Buildings owned by company needed in operating road,	3,689 09
Total Cost of Land and Buildings,	$4,669 09

Other Property.

Office desk and wire enclosure, electric chandelier, safe, two stoves, and other furniture at office and car shed,	$349 96

Total Amount of Permanent Investments,		$106,285 37
Cash assets,		3,426 32
Total Property and Assets of Company,		$109,711 69
Property Accounts: Charges and Credits during the Year.		
Extension of tracks,		$3,250 30
Grading and paving,		172 92
New cars,		783 22
Other equipment,		784 38
Other property,		142 02
Land and buildings,		144 93
Total Addition to Property,		$5,277 77
Revenue for the Year.		
Received from passengers on railways operated by this company,		$16,018 65
Total Earnings,		$16,018 65
Income from other sources,		102 88
Advertising,	$15 00	
Rents,	63 33	
Interest on bank deposit,	24 55	
Total Income from All Sources,		$16,121 53
Expenses of Operating for the Year.		
Repairs of road-bed and track and overhead equipment,		$709 56
Repairs of cars,		452 11
Repairs of buildings,		52 53
Wages and salaries of all other persons employed in operating the road,		9,213 90
Supplies,		222 98
Taxes, State and local,		483 58
Insurance,		50 00
Damages for injuries to persons and property,		4 50
Office expenses, and all other expenses not included above,		1,487 03
Total Expenses of Operating,		$12,676 19
Net Income, Dividends, etc.		
Total Net Income Above Operating Expenses,		$3,445 34
Interest accrued during the year,		2,250 00
Dividends declared (1 per cent. for the year),		500 00
Balance for the year, or surplus,		695 34
Surplus at commencement of year,		2,068 46
Total Surplus Sept. 30, 1890,		$2,763 80
Inventory of Equipment Sept. 30, 1890.		
Box cars, equipped for electrical operation,		3
Open cars, equipped for electrical operation,		3
Other articles of equipment:		
Two engines, two dynamos, and all necessary electrical station fittings and appliances; also overhead wire service upon streets.		
Number of box cars fitted with electric motors,		3
Number of open cars fitted with electric motors,		3

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$47,288 93
Equipment,	53,977 39
Land and buildings,	4,669 09
Other property,	349 96
Cash and cash assets,	3,426 32
TOTAL ASSETS,	$109,711 69

LIABILITIES.

Capital stock,	$50,000 00
Funded debt,	50,000 00
Unfunded debt,	6,947 89
Surplus,	2,763 80
TOTAL LIABILITIES,	$109,711 69

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.

To expenses,	$12,676 19
interest,	2,250 00
dividends,	500 00
balance carried forward Sept. 30, 1890,	2,763 80
	$18,189 99

CR.

By balance Sept. 30, 1889,	$2,068 46
total income,	16,121 53
	$18,189 99

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	2.939 miles.
Aggregate length of switches, sidings, etc.,	.383 mile.
Total length of track, measured as single track,	3.322 miles.
Weight of rail per yard, and description of rail: 35 pounds Wharton's steel girder, No. 3.	
Description of the several lines or routes operated by the company:	
The road extends from Broad Street to Maple Street, near Howe Street, and has three branches: One to Middlesex Square, one through Pleasant and West Main streets, and one through West Main and Broad streets.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	2.939 miles.

MILES RUN, ETC.

Total number of miles run during the year,	83,280
Total number of passengers carried in the cars,	320,373
Total number of round trips for the year,	16,656
Number of persons regularly employed by company,	18
Rates of fare,	5 cents.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890? Three and three hundred and twenty-two one thousandths.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse-cars. Solely by electricity.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Sprague system; overhead wires and single trolley.

Average speed of the electric cars operated by your company, where not impeded by horse-cars. Six miles per hour.

PROPER ADDRESS OF THE COMPANY.

MARLBOROUGH STREET RAILWAY COMPANY,
MARLBOROUGH, MASS.

NAME AND RESIDENCE OF OFFICERS.

Samuel Boyd, *President*, Marlborough, Mass. Samuel C. Darling, *Superintendent*, Somerville, Mass. Samuel C. Darling, *Treasurer and Clerk of Corporation*, Somerville, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Samuel Boyd, Marlborough, Mass. Samuel C. Darling, Somerville, Mass. Timothy A. Coolidge, Marlborough, Mass. James T. Murphy, Marlborough, Mass. Stillman B. Pratt, Boston, Mass. Albe C. Weeks, Marlborough, Mass. Edward R. Alley, Marlborough, Mass.

EDWARD R. ALLEY,
ALBE C. WEEKS,
JAMES T. MURPHY,
SAMUEL C. DARLING,
Directors.
SAMUEL C. DARLING,
Treasurer and Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

MIDDLESEX, SS. Dec. 6, 1890. Then personally appeared Edward R. Alley, Albe C. Weeks and James T. Murphy, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

SAMUEL C. DARLING,
Justice of the Peace.

COMMONWEALTH OF MASSACHUSETTS.

MIDDLESEX, SS. Dec. 6, 1890. Then personally appeared Samuel C. Darling, treasurer and superintendent, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

JOHN S. FAY,
Justice of the Peace.

REPORT

OF THE

MERRIMACK VALLEY HORSE RAILROAD COMPANY,

FOR THE YEAR ENDING SEPT. 30, 1890.

CAPITAL STOCK AND DEBT.		
CAPITAL STOCK.		
Capital stock authorized by charter,	$80,000 00	
Capital stock paid (par value of shares, $100),		$80,000 00
Number of stockholders,	28	
DEBT.		
Unfunded debt, as follows,		$21,500 00
Bills payable,	$21,500 00	
TOTAL GROSS DEBT,		$21,500 00
Amount of cash assets, viz.,		2,068 81
Cash,	$568 81	
Supplies,	1,500 00	
NET DEBT,		$19,431 19
PERMANENT INVESTMENTS.		
RAILWAY.		
Grading and paving,		$3,840 00
Track, including timber, rails, etc., and laying,		45,000 00
TOTAL COST OF CONSTRUCTION,		$48,840 00
EQUIPMENT.		
Horses,		$13,000 00
Cars,		16,400 00
Other articles of equipment,		600 00
TOTAL COST OF EQUIPMENT,		$30,000 00
LAND AND BUILDINGS.		
Land owned by company needed in operating road,		$19,300 00
Buildings owned by company needed in operating road,		18,300 00
TOTAL COST OF LAND AND BUILDINGS,		$37,600 00
TOTAL AMOUNT OF PERMANENT INVESTMENTS,		$116,440 00
Cash assets,		2,068 81
TOTAL PROPERTY AND ASSETS OF COMPANY,		$118,508 81
PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.		
Extension of tracks (number of feet, 2,011),		$4,000 00
Paving,		840 00
TOTAL ADDITION TO PROPERTY,		$4,840 00

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$79,250 50
Received from sales of manure,		780 75
Income from other sources,		350 04
Rent of office,	$200 04	
Advertising privilege in cars,	150 00	
TOTAL INCOME FROM ALL SOURCES,		$80,381 29

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$5,282 02
Repairs of cars and other vehicles, harness and horse-shoeing,	6,065 79
Renewal of horses,	1,013 30
Wages and salaries of president, treasurer, superintendent and their clerks,	4,166 66
Wages and salaries of all other persons employed in operating the road,	29,931 76
Provender,	11,739 06
Taxes, State and local,	1,424 14
Insurance,	941 75
Office expenses, and all other expenses not included above,	3,518 43
TOTAL EXPENSES OF OPERATING,	$64,082 91

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$16,298 38
Interest accrued during the year,	915 89
Dividends declared (8 per cent. for the year),	6,400 00
Balance for the year, or surplus,	8,982 49
Surplus at commencement of year,	8,026 32
TOTAL SURPLUS SEPT. 30, 1890,	$17,008 81

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box-cars,	19
Open cars,	18
Horses,	147
Harnesses (pairs of),	20
Sleighs,	4

Other articles of equipment:
Two ploughs, 2 safes, 2 carts, 2 wagons, tools.

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$48,840 00
Equipment,	30,000 00
Land and buildings,	37,600 00
Cash and cash assets,	2,068 81
TOTAL ASSETS,	$118,508 81

LIABILITIES.

Capital stock,	$80,000 00
Unfunded debt,	21,500 00
Surplus,	17,008 81
TOTAL LIABILITIES,	$118,508 81

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.

To expenses,	$64,082 91
interest,	915 89
dividends,	6,400 00
balance carried forward Sept. 30, 1890,	17,008 81
	$88,407 61

CR.

By balance Sept. 30, 1889,	$8,026 32
total income,	80,381 29
	$88,407 61

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	9.81 miles.
Aggregate length of switches, sidings, etc.,	1 mile.
Total length of track, measured as single track,	10.81 miles.
Total length of track paved,	3.30 "

Description of the several lines or routes operated by the company:

From Methuen, Railroad Street, Hampshire Street, through Broadway, through Lawrence, Mass., on Broadway, Essex Street, Union Street, Merrimack Street; through North Andover, Water Street and Main Street to corner of Elm; Lawrence Street, from Essex Street to Arlington Street; Water Street, from Broadway to Doyle Street; Berkley Street, from corner Knox Street, through East Haverhill, and Newbury Street to Essex Street; from corner Merrimack Street, through Union, Andover and Broadway to Essex Street; from Union Street, corner Canal, down Canal to paper mills.

Total length of railway, measured as single track, not including sidings, etc., operated by this company,	9.81 miles.

MILES RUN, ETC.

Total number of miles run during the year,	294,000
Total number of passengers carried in the cars,	1,585 506
Total number of round trips for the year,	70,000
Number of persons regularly employed by company,	56
Rates of fare,	5 cents.

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL.		FROM THEIR OWN MISCONDUCT OR CARELESSNESS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	-	-	3	-	3
Employees,	-	-	-	-	-	-
Others,	-	-	-	-	-	-

STATEMENT OF EACH ACCIDENT.

In August, 1890, a lady by name of Welch stepped from car while in motion and was thrown to ground and slightly bruised on body; no claims made; matter adjusted satisfactorily.

Friday evening, Sept. 26, 1890, a German named Schanfuss stepped from car on Newbury Street while it was in motion and had a leg broken; no claim was made, and matter was adjusted by company satisfactorily.

In April, a man named Brainerd, while trying to step on front platform, while car was moving, was thrown down and badly bruised, but he brought no claims, as he considered it all his own fault.

PROPER ADDRESS OF THE COMPANY.

MERRIMACK VALLEY HORSE RAILROAD COMPANY,
563 ESSEX STREET, LAWRENCE, MASS.

NAME AND RESIDENCE OF OFFICERS.

W. B. Ferguson, *President*, Malden, Mass. N. E. Morton, *Superintendent*, Lawrence, Mass. Albert E. Butler, *Treasurer and Clerk of Corporation*, Lawrence, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

W. B Ferguson, Malden, Mass. Wm. Oswold, Lawrence, Mass. E. P. Shaw, Newburyport, Mass. James H. Eaton, Lawrence, Mass. J. H. Cunningham, Chelsea, Mass. Albert D. Bosson, Chelsea, Mass.

W. B. FERGUSON,
E. P. SHAW,
JAMES H. EATON,
J. H. CUNNINGHAM,
Directors.

ALBERT E. BUTLER,
Treasurer.

NATHAN E. MORTON,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS. Nov. 5, 1890. Then personally appeared W. B. Ferguson, E. P. Shaw, J. H. Cunningham, James H. Eaton, A. E. Butler and N. E. Morton, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

ALBERT D. BOSSON,
Justice of the Peace.

REPORT

OF THE

MILFORD & HOPEDALE STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

[Road under construction.]

CAPITAL STOCK AND DEBT.

Capital Stock.

Capital stock authorized by charter,	$60,000 00	
Capital stock authorized by votes of company,	60,000 00	
Capital stock paid (par value of shares, $100),		$60,000 00
Number of stockholders,	10	
Amount of cash assets, viz.,		$60,000 00
Cash,	$60,000 00	

Number of miles of track for electric railway under construction Sept. 30, 1890. Six.

Name of system, or, if storage batteries are to be used, the name of the storage battery. W. L. Stevens' system of storage battery cars, as run at Beverly.

Proper Address of the Company.

MILFORD & HOPEDALE STREET RAILWAY COMPANY,
23 Court Street, Room 618, Boston, Mass.

Name and Residence of Officers.

Edward P. Usher, *President and Superintendent*, Grafton, Mass. Albert G. Morse, *Treasurer and Clerk of Corporation*, Boston, Mass.

Name and Residence of Directors last elected.

Ezra H. Winchester, Portsmouth, N. H. J. Albert Walker, Portsmouth, N. H. William F. Draper, Hopedale, Mass. Henry B. Sprague, Lynn, Mass. Albert G. Morse, Boston, Mass. Frank W. Morse, Boston, Mass. Edward P. Usher, Grafton, Mass.

EDWARD P. USHER,
ALBERT G. MORSE,
J. ALBERT WALKER,
E. H. WINCHESTER,
Directors.
ALBERT G. MORSE,
Treasurer.
EDWARD P. USHER,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS. BOSTON, 1890. Then personally appeared Albert G. Morse, J. Albert Walker and E. H. Winchester, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

E. P. USHER,
Justice of the Peace.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS. BOSTON, Dec. 6, 1890. Then personally appeared Edward P. Usher, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

Before me,
WM. E. ROGERS,
Justice of the Peace.

REPORT

OF THE

NAUMKEAG STREET RAILWAY COMPANY,

FOR THE YEAR ENDING SEPT. 30, 1890.

CAPITAL STOCK AND DEBT.

Capital Stock.		
Capital stock authorized by charter,	$250,000 00	
Capital stock authorized by votes of company,	250,000 00	
Capital stock paid (par value of shares, $100),		$250,000 00
Number of stockholders,	7	
Debt.		
Funded debt, as follows,		$475,500 00
Mortgage bonds due 1885, rate of interest 6 per cent.,	$500 00	
Bonds due 1895, rate of interest 6 per cent.,	50,000 00	
Mortgage bonds due 1906, rate of interest 5 per cent.,	250,000 00	
Plain bonds due 1907, rate of interest 5 per cent.,	175,000 00	
Unfunded debt, as follows,		183,833 05
Coupons unpaid,	$462 00	
Tickets outstanding,	568 70	
Debit balances,	182,802 35	
TOTAL GROSS DEBT,		$659,333 05
Amount of cash assets, viz.,		72,756 89
Cash,	$2,912 05	
Supplies,	17,686 49	
Sinking fund,	50,500 00	
Debit balances,	1,478 35	
NET DEBT,		$586,756 16
Permanent Investments.		
Railway.		
Grading and paving and track, including timber, rails, etc., and laying,		$171,933 43
Other railways:		
Salem and Danvers Street Railway (cost, $131,730.88), purchased for,		203,556 00
Salem Street Railway (cost, $208,853.36) purchased for,		160,754 08
TOTAL COST OF CONSTRUCTION,		$636,243 51
Equipment.		
Horses,		$43,715 00
Cars,		62,920 00
Other articles of equipment,		100,757 79
TOTAL COST OF EQUIPMENT,		$207,392 79

Land and Buildings.

Land and buildings owned by company needed in operating road,		$27,991 80
Buildings owned by company needed in operating road,		75,133 17
Total Cost of Land and Buildings,		$103,124 97
Total Amount of Permanent Investments,		$846,761 27
Cash assets,		72,576 89
Total Property and Assets of Company,		$919,338 16
Amount of sinking fund in hands of trustees,		$50,500 00

Property Accounts: Charges and Credits during the Year.

Extension of tracks and 9⅔ miles overhead wire and for operation by electricity (number of feet, 2,640),		$30,363 93
New horses (number, 9),		1,440 00
Other equipment,		45,532 39
Land and buildings,		5,891 73
Total Addition to Property,		$83,228 05

Revenue for the Year.

Received from passengers on railways operated by this company,		$228,503 73
Received from sales of manure,		1,892 06
Total Earnings,		$230,395 79
Income from other sources,		1,396 46
Rents and advertising in cars,	$1,396 46	
Total Income from All Sources,		$231,792 25

Expenses of Operating for the Year.

Repairs of road-bed and track,		$6,089 48
Repairs of cars and other vehicles, harness and horse-shoeing,		12,481 12
Repairs of buildings,		927 08
Renewal of horses,		6,757 50
Wages and salaries of president, treasurer, superintendent and their clerks,		5,770 89
Wages and salaries of all other persons employed in operating the road,		87,392 21
Provender,		33,541 45
Taxes, State and local,		6,179 99
Rent and tolls paid other companies for use of their roads,		568 26
Lynn & Boston Railroad Company,	$568 26	
Insurance,		2,771 50
Damages for injuries to persons and property,		5,269 25
Office expenses, and all other expenses not included above,		8,928 82
Total Expenses of Operating,		$176,677 55

Net Income, Dividends, etc.

Total Net Income above Operating Expenses,		$55,114 70
Interest accrued during the year,		30,926 81
Dividends declared (6 per cent. for the year),		15,000 00

Balance for the year, or surplus,		$9,187 89
Surplus at commencement of year,	$35,740 33	
Deduct sundry accounts charged off,	34,923 11	
Surplus at commencement of year, as changed by aforesaid entries,		817 22
TOTAL SURPLUS SEPT. 30, 1890,		$10,005 11

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	55
Open cars,	55
Horses,	404
Harnesses (pairs of),	170
Omnibuses,	7
Sleighs,	16

Other articles of equipment:

Thirty-six electric motors, 4 dynamos, 2 carryalls, 3 Concord wagons, 8 express wagons, 8 tip carts, 3 buggies, 6 pungs, 3 bogies, 6 wheelbarrows, 6 snow-ploughs, 6 snow-levellers, 1 sweeper, 3 boilers, 1 engine, 5 hay cutters, 5 safes, 40 car stoves, 40 registers, tools, clocks and other miscellaneous articles.

Number of box cars fitted with electric motors,	7
Number of open cars fitted with electric motors,	2

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$536,243 51
Equipment,	207,392 79
Land and buildings,	103,124 97
Cash and cash assets,	72,576 89
TOTAL ASSETS,	$919,338 16

LIABILITIES.

Capital stock,	$250,000 00
Funded debt,	475,500 00
Unfunded debt,	183,833 05
Surplus,	10,005 11
TOTAL LIABILITIES,	$919,338 16

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.

To expenses,	$176,677 55
interest,	30,926 81
dividends,	15,000 00
balance carried forward Sept. 30, 1890,	10,005 11
	$232,609 47

CR.

By balance Sept. 30, 1889,	$817 22
total income,	231,792 25
	$232,609 47

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings, ...	33.36 miles.
Aggregate length of switches, sidings, etc., ...	4.544 "
Total length of track, measured as single track, . . .	37.904 "
Total length of track paved, ...	32.5 "
Weight of rail per yard, and description of rail: 50, 45, 35 pounds T; 47 pounds tram.	
Description of the several lines or routes operated by the company:	
Main line from the corner of Endicott and Lowell streets in Peabody, through Peabody, Salem, Beverly, North Beverly and Wenham to a point in Hamilton called Asbury Grove Camp Ground, with double track from Peabody Square to a point on Boston Street in Salem opposite Hanson Street; and from Fowler Street to North Street in Salem; with six turnouts in Salem, eight turnouts in Beverly, four turnouts in Wenham, and two turnouts in Hamilton; with branches as follows:	
From Danvers Centre through Danvers and Salem to the junction of the Lynn and Marblehead roads in Marblehead; from the terminus of the Lynn & Boston Railroad Company's track on Pleasant Street to Front Street in Marblehead; from Asylum Station in Danvers to Danvers Square; from Putnamville to Peabody Square; from junction of Cabot and Knowlton streets in Beverly to Chapman's Corner; from junction of Washington Square in Salem to the Willows in Salem.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company, . .	33.36 miles.

MILES RUN, ETC.

Total number of miles run during the year, ...	630,176
Total number of passengers carried in the cars, . . .	4,475,950
Total number of round trips for the year, ...	130,090
Number of persons regularly employed by company, . .	170
Rates of fare, 4⅙, 5, 6¼, 7, 8⅓ and 10 cents.	

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL.		FROM THEIR OWN MISCONDUCT OR CARELESSNESS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, ...	–	6	–	–	–	6
Employees, ...	–	–	–	–	–	–
Others, ...	–	1	–	–	–	1

STATEMENT OF EACH ACCIDENT.

June 27, 1890. — A lady left a car while in motion, and fell to the ground and was slightly injured.

August 6. — A boy playing in the street ran in front of the car horses and was knocked down and injured.

August 22. — A lady stepped from a car while in motion, and was injured.

August 27. — A lady stepped from a car while in motion, and was injured.

August 27. — A storage battery car of the Beverly & Danvers Road collided with a horse car on our track at Beverly, and damaged our car.

September 24. — A man standing on the running board of an open car was struck by a tree and somewhat injured.

September 27. — A drunken man in attempting to board a car fell and was injured.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890 ? Nine and two-thirds miles.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse-cars. Part electric cars and part horse cars.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Edison overhead system.

Number of miles of track for electric railway under construction Sept. 30, 1890. Twelve miles.

Name of system, or, if storage batteries are to be used, the name of the storage battery. Edison overhead system.

Average speed of the electric cars operated by your company, where not impeded by horse cars. Six miles.

Proper Address of the Company.

NAUMKEAG STREET RAILWAY COMPANY,
233 Essex Street, Salem, Mass.

Name and Residence of Officers.

Benjamin Orne, *President*, Salem, Mass. Joseph F. Hickey, *Superintendent, Treasurer and Clerk of Corporation*, Salem, Mass.

Name and Residence of Directors last elected.

Benjamin Orne, Salem, Mass. Frederick Swift, New Bedford, Mass. Wendell Goodwin, New York, N. Y. Charles O. Billings, Boston, Mass. James F. Almy, Salem, Mass.

BENJAMIN ORNE,
WENDELL GOODWIN,
CHARLES O. BILLINGS,
JAMES F. ALMY,
Directors.

JOSEPH F. HICKEY,
Treasurer and Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

ESSEX, ss. Nov. 24, 1890. Then personally appeared Benjamin Orne, one of the directors above named, and Jos. F. Hickey, treasurer and superintendent, and made oath that the statements above subscribed by them are true.

DANIEL N. CROWLEY,
Justice of the Peace.

STATE OF NEW YORK.

COUNTY OF NEW YORK, ss. Personally appeared before me this 19th day of November, 1890, Wendell Goodwin, one of the directors, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

W. H. OSBORNE,
Notary Public, 47.
FRYE & CO.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Then personally appeared Charles O. Billings, one of the directors above named, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

Before me,

FRED W. BROWN,
Notary Public.

COMMONWEALTH OF MASSACHUSETTS.

ESSEX, ss. Nov. 29, 1890. Then personally appeared James F. Almy, one of the directors within named, and made oath that the within statement by him subscribed is true, to the best of his knowledge and belief.

Before me,

PATRICK J. McCUSKER,
Justice of the Peace.

REPORT

OF THE

NANTUCKET BEACH STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

[Road under construction.]

CAPITAL STOCK AND DEBT.

Capital Stock.

Capital stock authorized by charter, . . .	$30,000 00	
Capital stock paid (par value of shares, $100), ...		$30,000 00
Number of stockholders, ...	7	

General Balance Sheet Sept. 30, 1890.

Liabilities.

Capital stock, ...	$30,000 00
Total Liabilities, ...	$30,000 00

The company contracted for $30,000 to build a length of the road, amounting to about 6,000 feet, and to equip the road with not less than two cars and the requisite horses. The road, on the 30th of September last, was not completed, and had not been turned over to the company nor accepted by them. It has no superintendent yet appointed or elected.

Proper Address of the Company.

NANTUCKET BEACH STREET RAILWAY COMPANY,
55 Equitable Building, Boston, Mass.

Name and Residence of Officers.

Harvey H. Pratt, *President,* Abington, Mass. H. R. Willson, *Vice-President,* New York, N. Y. John F. Simmons, *Treasurer,* Hanover, Mass. Thos. G. Macy, *Clerk of Corporation,* Nantucket, Mass.

Name and Residence of Directors last elected.

Harvey H. Pratt, Abington, Mass. John F. Simmons, Hanover, Mass. Leonard A. Whitney, St. Paul, Minn. M. R. Simmons, Stoughton, M

Hugh R. Willson, New York, N. Y.	H. W. Hedenborg, New York, N. Y.
Thos. G. Macy, Nantucket, Mass.	

JOHN F. SIMMONS,
LEONARD A. WHITNEY,
MOYSES R. SIMMONS,
HARVEY H. PRATT,
Directors.

JOHN F. SIMMONS,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Nov. 26, 1890. Then personally appeared John F. Simmons, Leonard A. Whitney, Moyses R. Simmons and Harvey H. Pratt, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

THOMAS E. GROVER,
Justice of the Peace.

REPORT

OF THE

NANTUCKET ELECTRIC STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

We have your letter of the 17th inst., to the treasurer of the Nantucket Electric Street Railway Company, asking for the annual return of the company. .

The company has as yet done no business, owns no property, and none of the capital stock has been paid in.

Very truly yours,

GRANT, PEARSON & CO.
By I. Ellwood Smith.

REPORT

OF THE

NATICK & COCHITUATE STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$25,000 00	
Capital stock authorized by votes of company,	25,000 00	
Capital stock paid (par value of shares, $100),		$25,000 00
Number of stockholders,	52	
Debt.		
Unfunded debt, as follows,		$488 34
Tickets unredeemed,	$488 34	
Total Gross Debt,		$488 34
Cash,		8,301 37
Permanent Investments.		
Railway.		
Grading and paving, and track, including timber, rails, etc., and laying,		$20,875 00
Engineering, agencies, salaries and other expenses during construction,		675 00
Total Cost of Construction,		$21,550 00
Equipment.		
Horses,		$2,317 50
Cars,		4,400 00
Other articles of equipment,		700 00
Total Cost of Equipment,		$7,417 50
Land and Buildings.		
Land owned by company needed in operating road,		$1,000 00
Buildings owned by company needed in operating road,		3,000 00
Total Cost of Land and Buildings,		$4,000 00
Total Amount of Permanent Investments,		$32,967 50
Cash assets,		8,301 37
Total Property and Assets of Company,		$41,268 87
Property Accounts: Charges and Credits during the Year.		
New horses (number, 2),		$175 00
Total Addition to Property,		$175 00

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$14,149 91
Received from mails and express,		386 69
Received from sales of manure,		55 72
TOTAL EARNINGS,		$14,592 32
Income from other sources,		263 80
Use of coaches,	$140 80	
Advertising,	43 00	
Interest,	80 00	
TOTAL INCOME FROM ALL SOURCES,		$14,856 12

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track and repairs of cars and other vehicles, harness and horse-shoeing,	$1,265 70
Wages and salaries of president, treasurer, superintendent and their clerks,	1,550 00
Wages and salaries of all other persons employed in operating the road,	3,794 45
Provender,	2,193 49
Taxes, State and local,	422 95
Insurance,	138 00
Office expenses and all other expenses not included above,	541 95
TOTAL EXPENSES OF OPERATING,	$10,031 54

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$4,824 58
Dividends declared (6 per cent. for the year),	1,500 00
Balance for the year, or surplus,	3,324 58
Surplus at commencement of year,	12,455 95
TOTAL SURPLUS SEPT. 30, 1890,	$15,780 53

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	4
Open cars,	3
Horses,	24
Harneses (pairs of),	5
Omnibusses,	2
Sleighs,	2

Other articles of equipment:
Snow-plough, furniture wagon, 2 sets sleigh runners.

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$21,550 00
Equipment,	7,417 50
Land and buildings,	4,000 00
Cash and cash assets,	8,301 37
TOTAL ASSETS,	$41,268 87

LIABILITIES.

Capital stock,	$25,000 00
Unfunded debt,	488 34
Surplus,	15,780 53
TOTAL LIABILITIES,	$41,268 87

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

Dr.	
To expenses,	$10,031 54
dividends,	1,500 00
balance carried forward Sept. 30, 1890,	15,780 53
	$27,312 07
Cr.	
By balance Sept. 30, 1889,	$12,455 95
total income,	14,856 12
	$27,312 07

Description of Railway.

Length of railway owned by company, measured as a single track, exclusive of sidings,	3 miles.
Aggregate length of switches, sidings, etc.,	.20 mile.
Total length of track, measured as single track,	3.20 miles.
Total length of track paved,	1.89 miles.
Weight of rail per yard, and description of rail: flat and T, 35 pounds.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	3 miles.

Miles Run, etc.

Total number of miles run during the year,	41,256
Total number of passengers carried in the cars,	246,847
Total number of round trips for the year,	6,876
Number of persons regularly employed by company,	8
Rates of fare: 3, 5 and 8 cents cash; $4\frac{1}{6}$ and $6\frac{1}{4}$ cents tickets.	

Proper Address of the Company.

NATICK AND COCHITUATE STREET RAILWAY COMPANY,

Natick, Mass.

Name and Residence of Officers.

Harrison Harwood, *President*, Natick, Mass. George F. Keep, *Superintendent*, Cochituate, Mass. Wm. H. Bent, *Treasurer*, Cochituate, Mass. Frank H. Hayes, *Clerk of Corporation*, Natick, Mass.

Name and Residence of Directors last elected.

Harrison Harwood, Natick, Mass. George F. Keep, Cochituate, Mass. Wm. H. Bent, Cochituate, Mass. Frank H. Hayes, Natick, Mass. John O.

Wilson, Natick, Mass. O. A. Felch, Natick, Mass. Charles A. Pooke, Natick, Mass.

HARRISON HARWOOD,
OLIVER A. FELCH,
JOHN O. WILSON,
FRANK H. HAYES,
GEORGE F. KEEP,
CHARLES A. POOKE,
WM. H. BENT,
Directors.
WM. H. BENT,
Treasurer.
GEORGE F. KEEP,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

MIDDLESEX, ss. Nov. 7, 1890. Then personally appeared Harrison Harwood, George F. Keep, Oliver A. Felch, Charles A. Pooke, John O. Wilson, Wm. H. Bent and Frank H. Hayes, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

GIDEON D. TOWER,
Justice of the Peace.

REPORT

OF THE

NEWTON STREET RAILWAY COMPANY,

FOR THE YEAR ENDING SEPT. 30, 1890.

CAPITAL STOCK AND DEBT.

CAPITAL STOCK.

Capital stock authorized by charter,	$50,000 00	
Capital stock authorized by votes of company,	100,000 00	
Capital stock paid (par value of shares, $100),		$100,000 00
Number of stockholders,	16	

DEBT.

Funded debt, as follows ($100,000 authorized):		
Mortgage bonds due 1910, rate of interest 6 per cent. (None negotiated except as collateral for unfunded debt).		
Unfunded debt as follows,		$84,120 50
Notes of company,	$83,900 50	
Due Waltham & Newton stockholder,	220 00	
TOTAL GROSS DEBT,		$84,120 50
Cash,		2,374 25
NET DEBT,		$81,746 25

PERMANENT INVESTMENTS.

RAILWAY.

Grading and paving,	$27,270 22
Track, including timber, rails, etc., and laying,	43,033 46
Overhead construction,	15,721 84
Interest during construction, commissions, discounts, etc.,	1,342 85
Engineering, agencies, salaries and other expenses during construction,	10,840 18
Waltham & Newton Railway Company's railway and property, (original cost, $52,270.35; original cost of railway alone, $37,493.41); purchased for,	45,732 56
TOTAL COST OF CONSTRUCTION,	$143,941 11

EQUIPMENT.

Cars,	$21,414 81
Other articles of equipment,	1,018 11
TOTAL COST OF EQUIPMENT,	$22,432 92

LAND AND BUILDINGS.

Land and buildings owned by company needed in operating road,	$16,734 26
TOTAL COST OF LAND AND BUILDINGS,	$16,734 26

TOTAL AMOUNT OF PERMANENT INVESTMENTS,		$183,108 29
Cash assets,		2,374 25
TOTAL PROPERTY AND ASSETS OF COMPANY,		$185,482 54
PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.		
Extension and electrical equipment of tracks, pending at commencement, completed during the year (number of miles additional, 2.38),		$92,577 82
New cars (number, 8),		21,414 81
Other equipment,		958 11
Land and buildings,		16,734 26
TOTAL ADDITION TO PROPERTY,		131,685 00
Property sold or reduced in valuation on the books, viz.,		212 76
Waltham & Newton purchase,	$212 76	
NET ADDITION TO PROPERTY FOR THE YEAR,		$131,472 24
REVENUE FOR THE YEAR.		
Received from passengers on railways operated by this company,		$16,685 02
Received from mails and express,		50 00
Received from sales of manure,		125 00
TOTAL EARNINGS,		$16,860 02
Income from other sources,		60 00
Rental from superintendent,	$60 00	
TOTAL INCOME FROM ALL SOURCES,		$16,920 02
EXPENSES OF OPERATING FOR THE YEAR.		
Repairs of road-bed and track,		$766 89
Repairs of cars and other vehicles, harness and horse-shoeing,		1,082 86
Repairs of buildings,		109 63
Renewal of horses,		206 30
Wages and salaries of president, treasurer, superintendent and their clerks,		398 92
Wages and salaries of all other persons employed in operating the road,		6,860 53
Provender,		2,657 11
Taxes, State and local,		20 97
Insurance,		858 70
Damages for injuries to persons and property,		34 75
Office expenses, and all other expenses not included above,		1,311 98
TOTAL EXPENSES OF OPERATING,		$14,308 64
NET INCOME, DIVIDENDS, ETC.		
TOTAL NET INCOME ABOVE OPERATING EXPENSES,		$2,611 38
Dividends declared (4 per cent. on $50,000 for the year),		2,000 00
Balance for the year, or surplus,		611 38
Surplus at commencement of year,		750 66
TOTAL SURPLUS SEPT. 30, 1890,		$1,362 04
INVENTORY OF EQUIPMENT SEPT. 30, 1890.		
Box cars,		9
Open cars,		8
Horses,		4
Harnesses (pairs of),		6

Omnibuses,	2
Sleigh,	1
Other articles of equipment:	
One snow-plough, 1 buggy, 1 express wagon, 1 tower wagon, 1 tip cart,	
Number of box cars fitted with electric motors,	4
Number of open cars fitted with electric motors,	4

General Balance Sheet Sept. 30, 1890.

ASSETS.	
Construction,	$143,941 11
Equipment,	22,432 92
Land and buildings,	16,734 26
Cash and cash assets,	2,374 25
TOTAL ASSETS,	$185,482 54
LIABILITIES.	
Capital stock,	$100,000 00
Unfunded debt,	84,120 50
Surplus,	1,362 04
TOTAL LIABILITIES,	$185,482 54

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To expenses,	$14,308 64
dividends,	2,000 00
balance carried forward Sept. 30, 1890,	1,362 04
	$17,670 68
CR.	
By balance Sept. 30, 1889,	$750 66
total income,	16,920 02
	$17,670 68

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	5.48 miles.
Aggregate length of switches, sidings, etc.,	.30 mile.
Total length of track, measured as single track,	5.78 miles.
Total length of track paved,	1.67 "
Weight of rail per yard, and description of rail: 45 pounds T.	
Description of the several lines or routes operated by this company:	
From Newton (Newton Corner) on Washington Street, through Newtonville and West Newton, and thence through Elm, River and Lexington streets (all in the city of Newton) to Waltham; thence through Moody and Crescent streets and Moody Street again, and thence westerly on Main Street in the city of Waltham.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	5.48 miles.

MILES RUN, ETC.	
Total number of miles run during the year,	49,418
Total number of passengers carried in the cars,	348,597
Total number of round trips for the year,	7,619
Number of persons regularly employed by company,	21
Rates of fare,	5 cents.

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL.		FROM THEIR OWN MISCONDUCT OR CARELESSNESS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	-	-	5	-	5
Employees,	-	1	-	1	-	2
Others,	-	5	-	3	-	8

STATEMENT OF EACH ACCIDENT.

Nov. 16, 1889. — Man thrown out of team by driving into pile of dirt made building new track.

December 14. — Woman fell, jumping off car before it stopped.

April 8, 1890. — Woman thrown out of team trying to cross in front of car; collision.

April 24. — Boy fell, getting off car in motion.

May 11. — Woman fell, crossing excavation made rebuilding track.

May 14. — Two women thrown out of team by wheel catching in rail.

June 27. — Conductor on open car struck against pole.

August 1. — Man painting company's poles touched trolley wire and fell.

September 8. — Two women thrown from team; horse frightened by car.

September 14. — Man thrown out of team; horse shied at car and ran into pole.

September 25. — Drunken man fell, getting off car in motion.

September 28. — Drunken man fell, getting off car in motion.

September 29. — Woman fell getting off car, stepping on her dress.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890? Five and forty-eight one-hundredths.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse cars. Solely by electricity.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Thomson-Houston; overhead; single trolley.

Average speed of the electric cars operated by your company, where not impeded by horse cars. Eight miles per hour.

Proper Address of the Company.

NEWTON STREET RAILWAY COMPANY,
28 State Street, Room 63, Boston, Mass.

Name and Residence of Officers.

George W. Morse, *President*, Newtonville, Mass. Francis G. L. Henderson, *Superintendent*, West Newton, Mass. John C. Lane, *Treasurer and Clerk of Corporation*, Norwood, Mass.

Name and Residence of Directors last elected.

George W. Morse, Newtonville, Newton, Mass. John A. Pray, Boston, Mass. Horace B. Parker, Newtonville, Newton, Mass. Charles W. Smith, Boston, Mass. M. F. Dickinson, Jr., Boston, Mass. William A. Boland, Lynn, Mass. (resignation accepted May 3, 1890), and Winthrop Coffin, Newton, Mass. (chosen in his stead). John C. Lane, Norwood, Mass.

GEO. W. MORSE,
JOHN C. LANE,
CHAS. W. SMITH,
HORACE B. PARKER,
Directors.
JOHN C. LANE,
Treasurer.
F. G. L. HENDERSON,
Superintendent.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, Oct. 11, 1890. Then personally appeared Geo. W. Morse, president and director, John C. Lane, treasurer and director, Chas. W. Smith and Horace B. Parker, directors, and F. G. L. Henderson, superintendent of the Newton Street Railway Company, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

THOMAS J. KENNY,
Justice of the Peace.

REPORT

OF THE

NEWBURYPORT & AMESBURY HORSE RAILROAD COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.

Capital Stock.		
Capital stock authorized by charter,	$120,000 00	
Capital stock authorized by votes of company,	120,000 00	
Capital stock paid (par value of shares, $100),		$120,000 00
Number of stockholders,	33	
Debt.		
Funded debt, as follows,		$47,000 00
Bonds due 1906, rate of interest 6 per cent.,	$47,000 00	
Unfunded debt, as follows,		168,015 12
Notes payable,	$145,066 87	
Outstanding accounts,	22,948 25	
Total Gross Debt,		$215,015 12
Amount of cash assets, viz.,		7,625 00
Cash,	$404 29	
Supplies,	5,219 12	
Debit balances,	2,001 59	
Net Debt,		$207,390 12
Permanent Investments.		
Railway.		
Total Cost of Construction,		$230,982 18
Equipment.		
Horses,		$19,995 00
Cars,		39,239 83
Other articles of equipment,		10,275 81
Total Cost of Equipment,		$69,510 64
Land and Buildings.		
Land and buildings owned by company needed in operating road,		$34,926 77
Total Cost of Land and Buildings,		$34,926 77
Total Amount of Permanent Investments,		$335,419 59
Cash assets,		7,625 00
Total Property and Assets of Company,		$343,044 59

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks,		$65,438 42
New horses (number, 16),		2,195 00
New cars (number, 3),		2,055 00
Other equipment,		3,845 06
Land and buildings,		200 00
TOTAL ADDITION TO PROPERTY,		$73,733 48

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$67,225 50
Received from sales of manure,		459 50
TOTAL EARNINGS,		$67,685 00
Income from other sources,		33 61
Advertising,	$33 61	
TOTAL INCOME FROM ALL SOURCES,		$67,718 61

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$1,864 12
Repairs of cars and other vehicles, harness and horse-shoeing,	3,407 88
Repairs of buildings,	136 67
Renewal of horses,	1,745 00
Wages and salaries of all other persons employed in operating the road,	26,002 97
Provender,	10,942 74
Taxes, State and local,	1,510 89
Power,	3,153 92
Insurance,	666 00
Damages for injuries to persons and property,	752 50
Office expenses, and all other expenses not included above,	3,884 23
TOTAL EXPENSES OF OPERATING,	$54,066 92

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,		$13,651 69
Interest accrued during the year,		9,368 80
Dividends declared (2 per cent. for the year),		2,398 00
Balance for the year, or surplus,		1,884 89
Surplus at commencement of year,	$12,537 15	
Deduct old account charged off,	6,392 57	
Surplus at commencement of year, as changed by aforesaid entries,		6,144 58
TOTAL SURPLUS SEPT. 30, 1890,		$8,029 47

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	12
Open cars,	18
Horses,	129
Harnesses (pairs of),	45
Sleighs,	4
Other articles of equipment: Three carts, 4 wagons, 3 carriages, 3 ploughs, 1 leveller, 10 stoves, scrapers, tools, office and stable furniture.	
Number of box cars fitted with electric motors,	3
Number of open cars fitted with electric motors,	1

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$230,982 18
Equipment,	69,510 64
Land and buildings,	34,926 77
Cash and cash assets,	7,625 00
TOTAL ASSETS,	$343,044 59

LIABILITIES.

Capital stock,	$120,000 00
Funded debt,	47,000 00
Unfunded debt,	168,015 12
Surplus,	8,029 47
TOTAL LIABILITIES,	$343,044 59

Copy of Profit and Loss Account for the Year Ending Sept. 30, 1890.

DR.

To expenses,	$54,066 92
interest,	9,368 80
dividends,	2,398 00
balance carried forward Sept. 30, 1890,	8,029 47
	$73,863 19

CR.

By balance Sept. 30, 1889,	$6,144 58
total income,	67,718 61
	$73,863 19

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	15.597 miles.
Aggregate length of switches, sidings, etc.,	1.487 "
Total length of track, measured as single track,	17.084 "
Total length of track paved,	7.87 "

Weight of rail per yard, and description of rail: 34 and 45 pounds T.

Description of the several lines or routes operated by the company:

From foot of Marlborough Street via Purchase, Lime, School, Federal, Middle and Merrimac streets and Market Square.

From "Brick Schoolhouse," on Wesley Street, via Wesley, High, Olive, Washington, Titcomb, Pleasant, State and High streets, Newburyport, to Little's Lane, Newbury.

Main Street, to Merchants' Row in Amesbury, and from Amesbury Ferry via the "River Road" to Sargent's Hall, Merrimac.

Total length of railway, measured as single track, not including sidings, etc., operated by this company,	15.597 miles.

MILES RUN, ETC.

Total number of miles run during the year,	223,547
Total number of passengers carried in the cars,	1,336,658
Total number of round trips for the year,	19,614
Number of persons regularly employed by company,	55
Rates of fare,	5 and 10 cents.

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL.		FROM THEIR OWN MISCONDUCT OR CARELESSNESS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	-	-	-	-	-
Employees,	-	-	-	-	-	-
Others,	-	1	-	7	-	8

STATEMENT OF EACH ACCIDENT.

Oct. 1, 1889. — Woman fell, getting off car.

October 12. — Car collided with team.

Jan. 6, 1890. — Man thrown from team; horse frightened by car.

March 3. — Man fell, getting off car.

May 6. — Man fell from car; wrist broken.

May 22. — Car collided with team, breaking shaft.

July 3. — Woman jammed finger in car seat.

September 30. — Car collided with a cow.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890? Seven miles, one-hundred and fourteen feet.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse cars. Two miles by horses and electricity.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Thomson-Houston; overhead; single trolley.

Number of miles of track for electric railway under construction Sept. 30, 1890. Four and one-tenth.

Average speed of the electric cars operated by your company, where not impeded by horse cars. Ten miles per hour.

PROPER ADDRESS OF THE COMPANY.

NEWBURYPORT & AMESBURY HORSE RAILROAD COMPANY,
32 MARKET SQUARE, NEWBURYPORT, MASS.

Name and Residence of Officers.

Charles Odell, *President*, Salem, Mass. W. A. Larrabee, *Superintendent*, Newburyport, Mass. J. H. Crandell, *Treasurer and Clerk of Corporation*, Newburyport, Mass.

Name and Residence of Directors last elected.

Charles Odell, Salem, Mass. Willard B. Ferguson, Malden, Mass. John M. Anderson, Salem, Mass. Thomas H. Johnson, Salem, Mass. * Nathan Nichols, Salem, Mass. Charles H. Odell, Salem, Mass. Rufus H. Brown, Peabody, Mass. Chas. C. G. Thornton, Boston, Mass. George H. Stevens, Newburyport, Mass.

CHARLES ODELL,
RUFUS H. BROWN,
W. B. FERGUSON,
JOHN M. ANDERSON,
GEORGE H. STEVENS,
Directors.

JOHN H. CRANDELL,
Treasurer.

W. A. LARRABEE,
Superintendent.

Commonwealth of Massachusetts.

Essex, ss. Newburyport, Nov. 5, 1890. Then personally appeared Charles Odell, Rufus H. Brown, W. B. Ferguson, John M. Anderson, George H. Stevens, as directors, John H. Crandell, treasurer, and W. A. Larrabee, superintendent, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

J. V. FELKER,
Justice of the Peace.

---

* Deceased.

REPORT

OF THE

NORTHAMPTON STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.

Capital Stock.

Capital stock authorized by charter,*	$50,000 00	
Capital stock authorized by votes of company,	50,000 00	
Capital stock paid (par value of shares, $100),		$50,000 00
Number of stockholders,	8	

Debt.

Funded debt, as follows,		$25,000 00
Mortgage bonds due 1909, rate of interest 5 per cent.,	$25,000 00	
Unfunded debt, as follows,		5,182 53
Accounts payable,	$5,182 53	
Total Gross Debt,		$30,182 53
Cash,		22 41
Net Debt,		$30,160 12

Permanent Investments.

Railway.

Total Cost of Construction,	$36,000 00

Equipment.

Horses,	$5,500 00
Cars,	4,600 00
Other articles of equipment,	1,400 00
Total Cost of Equipment,	$11,500 00

Land and Buildings.

Land owned by company needed in operating road,	$5,200 00
Buildings owned by company needed in operating road,	15,725 50
Total Cost of Land and Buildings,	$20,925 50
Total Amount of Permanent Investments,	$68,425 50
Cash assets,	22 41
Total Property and Assets of Company,	$68,447 91

---

* Statutes of 1873 authorized a reduction of capital stock from $300,000 to $50,000, which was at once adopted by this company. It seems to be more correct to report the latter amount as authorized by charter, instead of the larger amount, as heretofore reported.

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

New horses (number, 10),	$1,000 00
TOTAL ADDITION TO PROPERTY,	$1,000 00

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$21,530 73
Received from mails and express,		275 20
Received from sales of manure,		186 00
TOTAL EARNINGS,		$21,991 93
Income from other sources,		745 00
Rents,	745 00	
TOTAL INCOME FROM ALL SOURCES,		$22,736 93

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$2,374 95
Repairs of cars and other vehicles, harness and horse-shoeing,	2,995 41
Repairs of buildings,	917 97
Renewal of horses,	963 15
Wages and salaries of president, treasurer, superintendent and their clerks,	1,000 00
Wages and salaries of all other persons employed in operating the road,	6,755 00
Provender,	4,411 75
Taxes, State and local,	170 87
Insurance,	271 75
Damages for injuries to persons and property,	650 19
Office expenses, and all other expenses not included above,	924 90
TOTAL EXPENSES OF OPERATING,	$21,435 94

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$1,300 99
Interest accrued during the year,	1,529 42
Balance for the year, or deficit,	228 43
Deficit at commencement of year,	11,506 19
TOTAL DEFICIT SEPT. 30, 1890,	$11,734 62

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box-cars,	5
Open cars,	4
Horses,	58
Harnesses (pairs of),	15
Omnibuses,	1
Sleigh,	1

Other articles of equipment:
Three snow-ploughs, 3 carts, 2 wagons, 1 rail-bender.

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$36,000 00
Equipment,	11,500 00
Land and buildings,	20,925 50
Cash and cash assets,	22 41
Deficit,	11,734 62
TOTAL ASSETS,	$80,182 53

LIABILITIES.

Capital stock,	$50,000 00
Funded debt,	25,000 00
Unfunded debt,	5,182 53
TOTAL LIABILITIES,	$80,182 53

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.

To balance Sept. 30, 1889,	$11,506 19
expenses,	21,435 94
interest,	1,529 42
	$34,471 55

CR.

By total income,	$22,736 93
balance carried forward Sept. 30, 1890,	11,734 62
	$34,471 55

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	3.2 miles.
Aggregate length of switches, sidings, etc.,	.2 mile.
Total length of track, measured as single track,	3.4 miles.
Weight of rail per yard, and description of rail: 1 mile; 32 pounds tram; balance 35 pounds T rail.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	3.2 miles.

MILES RUN, ETC.

Total number of miles run during the year,	67,102
Total number of passengers carried in the cars,	307,143
Total number of round trips for the year,	10,485
Number of persons regularly employed by company,	15
Rates of fare,	5 and 10 cents.

PROPER ADDRESS OF THE COMPANY.

NORTHAMPTON STREET RAILWAY COMPANY,
NORTHAMPTON, MASS.

NAME AND RESIDENCE OF OFFICERS.

J. C. Hammond, *President*, Northampton, Mass. E. C. Clark, *Superintendent and Treasurer*, Northampton, Mass. J. A. Sullivan, *Clerk of Corporation*, Northampton, Mass.

Name and Residence of Directors last elected.

J. C. Hammond, Northampton, Mass. Oscar Edwards, Northampton, Mass. J. A. Sullivan, Northampton, Mass. E. C. Clark, Northampton, Mass. J. L. Warriner, Pittsfield, Mass.

JOHN C. HAMMOND,
OSCAR EDWARDS,
JOHN A. SULLIVAN,
Directors.
E. C. CLARK,
Treasurer and Superintendent.

Commonwealth of Massachusetts.

Hampshire, ss. Oct. 10, 1890. Then personally appeared John C. Hammond, Oscar Edwards and John A. Sullivan, directors, and E. C. Clark, treasurer and superintendent, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

JOHN WHITTELSEY,
Justice of the Peace.

REPORT

OF THE

NORTH WOBURN STREET RAILROAD COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$200,000 00	
Capital stock authorized by votes of company,	100,000 00	
Capital stock paid (par value of shares, $100),		$100,000 00
Number of stockholders,	65	
Debt.		
Unfunded debt, as follows,		$27,470 62
Notes payable,	$26,500 00	
Outstanding tickets,	350 09	
Sundry open accounts,	620 53	
Total Gross Debt,		$27,470 62
Amount of cash assets, viz.,		1,952 66
Cash,	$880 86	
Supplies,	450 08	
Debit balances,	621 72	
Net Debt,		$25,517 96
Permanent Investments.		
Railway.		
Total Cost of Construction,		$88,492 80
Equipment.		
Horses,		$8,388 25
Cars,		10,330 13
Other articles of equipment,		2,055 92
Total Cost of Equipment,		$20,774 30
Land and Buildings.		
Land owned by company needed in operating road,		$2,397 50
Buildings owned by company needed in operating road,		12,828 22
Total Cost of Land and Buildings,		$15,225 72
Total Amount of Permanent Investments,		$124,492 82
Cash assets,		1,952 66
Total Property and Assets of Company,		$126,445 48

Property Accounts: Charges and Credits during the Year.

Extension of tracks (change of location),		$592 47
New horses (number, 6),		898 50
Other equipment,		14 00
Total Addition to Property,		$1,504 97
Property sold or reduced in valuation on the books, viz.,		789 25
Sold 6 horses,	$387 50	
Horses charged off,	401 75	
Net Addition to Property for the Year,		$715 72

Revenue for the Year.

Received from passengers on railways operated by this company,		$19,495 48
Received from other railways as tolls or rent,		87 61
East Middlesex Street Railway Company,	$87 61	
Received from sales of manure,		180 97
Total Earnings,		$19,764 06
Income from other sources,		45 00
Advertising in cars,	$45 00	
Total Income from All Sources,		$19,809 06

Expenses of Operating for the Year.

Repairs of road-bed and track,		$462 55
Repairs of cars and other vehicles, harness and horse-shoeing,		1,536 07
Repairs of buildings,		247 53
Renewal of horses,		401 75
Wages and salaries of treasurer, superintendent and their clerks,		1,627 34
Wages and salaries of all other persons employed in operating the road,		7,729 02
Provender,		3,619 58
Taxes, State and local,		1,110 12
Rent and tolls paid other companies for use of their roads,		71 93
West End Street Railway Company,	$71 93	
Insurance,		237 12
Damages for injuries to persons and property,		77 94
Office expenses, and all other expenses not included above,		1,314 63
Total Expenses of Operating,		$18,435 58

Net Income, Dividends, etc.

Total Net Income above Operating Expenses,	$1,373 48
Interest accrued durng the year,	1,419 27
Balance for the year, or deficit,	45 79
Deficit at commencement of year,	979 35
Total Deficit, Sept. 30, 1890,	$1,025 14

Inventory of Equipment Sept. 30, 1890.

Box cars,	4
Open cars,	7
Horses,	53
Harnesses (pairs of),	12

Other articles of equipment:

One snow-plough, 2 snow-levellers, 1 snow-sled, 1 heavy wagon, 1 express wagon, 1 Concord wagon, 1 road gig, 1 dump cart and 6 harnesses.

General Balance Sheet Sept. 30, 1890.

ASSETS.	
Construction,	$88,492 80
Equipment,	20,774 30
Land and buildings,	15,225 72
Cash and cash assets,	1,952 96
Deficit,	1,025 14
TOTAL ASSETS,	$127,470 62

LIABILITIES.	
Capital stock,	$100,000 00
Unfunded debt,	27,470 62
TOTAL LIABILITIES,	$127,470 62

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To balance Sept. 30, 1889,	$979 35
expenses,	18,435 58
interest,	1,419 27
	$20,834 20

CR.	
By balance Sept. 30, 1889,	$19,809 06
balance carried forward Sept. 30, 1890,	1,025 14
	$20,834 20

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	7.34 miles.
Aggregate length of switches, sidings, etc.,	.21 mile.
Total length of track, measured as single track,	7.55 miles.
Total length of track paved,	5.71 "
Weight of rail per yard, and description of rail: 40 pounds T; 35 pounds tram; 2-inch track.	
Description of the several lines or routes operated by the Company:	
From North Woburn the track runs by way of Main Street through Woburn and Winchester and by way of Purchase Street in Medford to a junction with the tracks of the West End Street Railway Company at corner of said Purchase Street and High Street in said Medford.	
Length of railway belonging to other companies, measured as single track, not including sidings, etc., operated by this company, or over which this company runs its cars, with the description of same,	.462 miles.
From above-named junction the cars of this company are on a track of the West End Street Railway Company to Medford Square in said Medford.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	7.802 miles.

Miles Run, etc.	
Total number of miles run during the year, ...	94,540
Total number of passengers carried in the cars, . . .	381,948
Total number of round trips for the year, ...	7,960
Number of persons regularly employed by company, . .	17
Rates of fare: Local cash fare, 5 cents; through fare, 10 cents; no tickets.	

Proper Address of the Company.

NORTH WOBURN STREET RAILROAD COMPANY,
35 Congress Street, Boston, Mass.

Name and Residence of Officers.

Amos F. Breed, *President*, Lynn, Mass. John E. Sewell, *Superintendent*, Woburn, Mass. D. H. Sweetser, *Treasurer and Clerk of Corporation*, Lynn, Mass.

Name and Residence of Directors last elected.

Amos F. Breed, Lynn, Mass. John M. Harlow, Woburn, Mass. Freeman A. Loring, Winchester, Mass. Benjamin Hinckley, Woburn, Mass. Gilman F. Jones, Woburn, Mass. Alwin C. Foster, Revere, Mass. Frank H. Monks, Brookline, Mass.

AMOS F. BREED,
BENJ. HINCKLEY,
E. C. FOSTER,
FRANK H. MONKS,
Directors.

D. H. SWEETSER,
Treasurer.

JOHN E. SEWELL,
Superintendent.

Commonwealth of Massachusetts.

Suffolk, ss. Oct. 29, 1890. Then personally appeared Amos F. Breed, Benj. Hinckley, E. C. Foster and Frank M. Monks, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

WILLIAM H. HART,
Justice of the Peace.

REPORT

OF THE

ONSET STREET RAILWAY COMPANY,

FOR THE YEAR ENDING SEPT. 30, 1890.

CAPITAL STOCK AND DEBT.

CAPITAL STOCK.

Capital stock authorized by charter,	$20,000 00	
Capital stock authorized by votes of company,	14,000 000	
Capital stock paid (par value of shares, $100),		$13,520 00
Number of stockholders,	22	

DEBT.

Unfunded debt, as follows,		$800 00
E. L. Currier note,	$300 00	
Cyrus Peabody note,	500 00	
TOTAL GROSS DEBT,		$800 00
Amount of cash assets, viz.,		1,236 82
Cash,	$1,067 80	
Supplies,	40 00	
Debit balances,	129 02	

PERMANENT INVESTMENTS.

RAILWAY.

Grading and paving,	$502 67
Track, including timber, rails, etc., and laying,	5,704 61
Engineering, agencies, salaries and other expenses during construction,	745 27
TOTAL COST OF CONSTRUCTION,	$6,952 57

EQUIPMENT.

Horses,	$160 90
Cars,	6,763 76
Other articles of equipment,	169 49
TOTAL COST OF EQUIPMENT,	$7,094 15

LAND AND BUILDINGS.

Land and buildings owned by company needed in operating road,	$431 90
TOTAL COST OF LAND AND BUILDINGS,	$431 90
TOTAL AMOUNT OF PERMANENT INVESTMENTS,	$14,478 62
Cash assets,	1,236 82
TOTAL PROPERTY AND ASSETS OF COMPANY,	$15,715 44

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks (number of feet, 300),		$465 77
Land and buildings,		50 03
TOTAL ADDITION TO PROPERTY,		$515 80
Property sold or reduced in valuation on the books, viz.,		6 00
Harness and tugs sold,	$6 00	
NET ADDITION TO PROPERTY FOR THE YEAR,		$509 80

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,	$1,585 00
Received from mails and express,	272 19
Received from sales of manure,	2 25
TOTAL INCOME FROM ALL SOURCES,	$1,859 44

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$184 04
Repairs of cars and other vehicles, harness and horse-shoeing,	133 78
Wages and salaries of president, treasurer, superintendent and their clerks,	250 00
Wages and salaries of all other persons employed in operating the road,	886 29
Provender,	190 77
Taxes, State and local,	70 26
Insurance,	67 50
Office expenses, and all other expenses not included above,	76 47
TOTAL EXPENSES OF OPERATING,	$1,859 11

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$0 33
Balance for the year, or surplus,	33
Surplus at commencement of year,	1,395 11
TOTAL SURPLUS SEPT. 30, 1890,	$1,395 44

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	5
Open cars,	1
Horses,	1
Harnesses (pairs of),	1
Two Baldwin noiseless street car motors.	

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$6,952 57
Equipment,	7,094 15
Land and buildings,	431 90
Cash and cash assets,	1,236 82
TOTAL ASSETS,	$15,715 44

LIABILITIES.

Capital stock,	$13,520 00
Unfunded debt,	800 00
Surplus,	1,395 44
TOTAL LIABILITIES,	$15,715 44

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

Dr.

To expenses,	$1,859 11
balance carried forward Sept. 30, 1890,	1,395 44
	$3,254 55

Cr.

By balance Sept. 30, 1889,	$1,395 11
total income,	1,859 44
	$3,254 55

Description of Railway.

Length of railway owned by company, measured as a single track, exclusive of sidings,	1.675 miles.
Aggregate length of switches, sidings, etc.,	.125 mile.
Total length of track, measured as single track,	1.800 miles.
Weight of rail per yard, and description of rail: steel T rail, 35 pounds.	
Description of the several lines or routes operated by the company:	
Onset Station, on Old Colony Railroad, through land of the Onset Bay Grove Association to and across Onset Avenue to Shell Point in Wareham, Mass.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	1.675 miles.

Miles Run, etc.

Total number of miles run during the year,	2,627
Total number of passengers carried in the cars,	17,794
Total number of round trips for the year,	1,051
Number of persons regularly employed by company,	4
Rates of fare,	10 cents.

List of Accidents.

	From Causes beyond their own Control.		From their own Misconduct or Carelessness.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	-	-	-	-	-
Employees,	-	-	-	-	-	-
Others,	-	-	1	-	1	-

Statement of Each Accident.

On Sunday, Oct. 13, 1889, last trip of the season, in the evening about 6.15 the motor ran over the legs of —— Cleary below the knees. He was taken to Wareham where he died the next day. He was intoxicated at the time, as it appears from testimony at an inquest held later before Judge Washburn at Middleborough. The engineer had sighted his feet on the track and applied brakes, and made all attempts possible to prevent crossing him.

Proper Address of the Company.

ONSET STREET RAILWAY COMPANY,
Onset, Mass.

Name and Residence of Officers.

E. Gerry Brown, *President,* 70 Main Street, Charlestown, Mass. W. W. Currier, *Treasurer and Clerk of Corporation,* Haverhill, Mass.

Name and Residence of Directors last elected.

E. Gerry Brown, 70 Main Street, Charlestown, Mass. W. W. Currier, Haverhill, Mass. Wm. D. Crockett, 18 Post Office Square, Boston, Mass. Simeon Butterfield, Chelsea, Mass. Alfred Nash, Chelsea, Mass. Cyrus Peabody, Warren, R. I. E. Y. Johnson, Warren, R. I. Charles H. Young, Lowell, Mass.

E. GERRY BROWN,
SIMEON BUTTERFIELD,
ALFRED NASH,
WM. D. CROCKETT,
Directors.
W. W. CURRIER,
Treasurer.

Commonwealth of Massachusetts.

Suffolk, ss. Oct. 18, 1890. Then personally appeared the above-named E. Gerry Brown, Simeon Butterfield, Wm. D. Crockett and Alfred Nash, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

Before me,
WALTER W. CURRIER,
Justice of the Peace.

Commonwealth of Massachusetts.

Suffolk, ss. Oct. 18, 1890. Then personally appeared the above-named W. W. Currier, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

Before me,
SIMEON BUTTERFIELD,
Justice of the Peace.

REPORT

OF THE

PITTSFIELD STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$50,000 00	
Capital stock authorized by votes of company,	50,000 00	
Capital stock paid (par value of shares, $100),		$43,110 00
Number of stockholders,	46	
Debt.		
Unfunded debt, as follows,		$13,500 00
Loan,	$13,500 00	
Total Gross Debt,		$13,500 00
Cash,		742 36
Net Debt,		$12,757 64
Permanent Investments.		
Railway.		
Grading and paving,		$5,908 38
Track, including timber, rails, etc., and laying,		16,589 13
Engineering, agencies, salaries and other expenses during construction,		5,741 77
Total Cost of Construction,		$28,239 28
Equipment.		
Horses,		$6,685 00
Cars,		8,094 45
Other articles of equipment,		1,023 01
Total Cost of Equipment,		$15,802 46
Land and Buildings.		
Land owned by company needed in operating road,		$1,200 00
Buildings owned by company needed in operating road,		4,571 34
Total Cost of Land and Buildings,		$5,771 34
Other Property.		
Bridge and building at picnic grounds,		$1,325 11
Total Amount of Permanent Investments,		$51,138 19
Cash assets,		742 36
Total Property and Assets of Company,		$51,880 55

Property Accounts: Charges and Credits during the Year.

New horses (number, 11),		$1,535 00
Total Addition to Property,		$1,535 00
Property sold or reduced in valuation on the books, viz.,		220 00
Three horses,	$220 00	
Net Addition to Property for the Year,		$1,315 00

Revenue for the Year.

Received from passengers on railways operated by this company,		$15,235 69
Received from sales of manure,		225 00
Total Earnings,		$15,460 69
Income from other sources,		231 24
Use of team,	$13 74	
Rent of ground,	217 50	
Total Income from All Sources,		$15,691 93

Expenses of Operating for the Year.

Repairs of road-bed and track,	$1,219 41
Repairs of cars and other vehicles, harness and horse-shoeing,	875 55
Repairs of buildings,	81 19
Wages and salaries of president, treasurer, superintendent and their clerks,	1,258 00
Wages and salaries of all other persons employed in operating the road,	6,401 45
Provender,	3,304 25
Taxes, State and local,	403 37
Insurance,	17 88
Office expenses, and all other expenses not included above,	1,336 93
Total Expenses of Operating,	$14,898 03

Net Income, Dividends, etc.

Total Net Income above Operating Expenses,	$793 90
Balance for the year, or surplus,	793 90
Deficit at commencement of year,	5,523 35
Total Deficit Sept. 30, 1890,	$4,729 45

Inventory of Equipment Sept. 30, 1890.

Box cars,	5
Open cars,	5
Horses,	40
Omnibus,	1

General Balance Sheet Sept. 30, 1890.

Assets.

Construction,	$28,239 28
Equipment,	15,802 46
Land and buildings,	5,771 34
Other property,	1,325 11
Cash and cash assets,	742 36
Deficit,	4,729 45
Total Assets,	$56,610 00

LIABILITIES.

Capital stock,	$43,110 00
Unfunded debt,	13,500 00
TOTAL LIABILITIES,	$56,610 00

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To balance Sept. 30, 1889,	$5,523 35
expenses,	14,898 03
	$20,421 38
CR.	
By total income,	$15,691 93
balance carried forward Sept. 30, 1890,	4,729 45
	$20,421 38

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	3.30 miles.
Aggregate length of switches, sidings, etc.,	.32 mile.
Total length of track, measured as single track,	3.62 miles.
Total length of track paved,	8,317 feet.
Weight of rail per yard, and description of rail: flat, steel, 35 and 40 pounds.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	3.30 miles.

MILES RUN, ETC.

Total number of miles run during the year,	40,424
Total number of passengers carried in the cars,	306,167
Total number of round trips for the year,	3,069
Number of persons regularly employed by company,	14
Rates of fare: Cash, 6 cents; 5 tickets, 25 cents.	

PROPER ADDRESS OF THE COMPANY.

PITTSFIELD STREET RAILWAY COMPANY,
PITTSFIELD, MASS.

NAME AND RESIDENCE OF OFFICERS.

Joseph Tucker, *President*, Pittsfield, Mass. E. H. Godfrey, *Superintendent*, Pittsfield, Mass. C. E. Merrill, *Treasurer*, Pittsfield, Mass. Geo. W. Clark, *Clerk of Corporation*, Pittsfield, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Joseph Tucker, Pittsfield, Mass. Alexander Kennedy, Pittsfield, Mass. H. R. Peirson, Pittsfield, Mass. J. L. Bacon, Pittsfield, Mass. George W.

Clark, Pittsfield, Mass. C. E. Merrill, Pittsfield, Mass. P. A. Chase, Lynn, Mass.

JOSEPH TUCKER,
J. L. BACON,
ALEX KENNEDY,
C. E. MERRILL,
Directors.

C. E. MERRILL,
Treasurer.

E. W. GODFREY,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

BERKSHIRE, ss. Nov. 6, 1890. Then personally appeared Joseph Tucker, J. L. Bacon, Alex Kennedy and C. E. Merrill, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

W. N. PLUNKETT,
Justice of the Peace.

COMMONWEALTH OF MASSACHUSETTS.

BERKSHIRE, ss. Nov. 7, 1890. Then personally appeared E. W. Godfrey, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

Before me,

W. N. PLUNKETT,
Justice of the Peace.

REPORT

OF THE

PLUM ISLAND STREET RAILWAY COMPANY,

For the Period ending May 5, 1890.

[This road was sold to the Black Rocks and Salisbury Beach Street Railway Company in accordance with Chapter 194 of the Acts of 1890, and operated by that company after May 5, 1890.]

CAPITAL STOCK AND DEBT.

Capital Stock.		
Capital stock authorized by charter,	$40,000 00	
Capital stock authorized by votes of company,	40,000 00	
Capital stock paid (par value of shares, $100),		$40,000 00
Number of stockholders,	20	
Debt.		
Funded debt as follows:		
Bonds due 1907, rate of interest 5 per cent.,	$40,000 00	
Less bonds held by treasurer,	39,000 00	
		$1,000 00
Unfunded debt, as follows,		59,991 85
Notes payable,	$54,200 00	
Bill outstanding,	5,791 80	
Total Gross Debt,		$60,991 85
Permanent Investments.		
Railway.		
Total Cost of Construction,		$59,441 11
Equipment.		
Horses,		$1,378 64
Cars,		5,981 09
Other articles of equipment,		3,101 37
Total Cost of Equipment,		$10,461 10
Land and Buildings.		
Land and buildings owned by company needed in operating road,		$21,300 73
Total Cost of Land and Buildings,		$21,300 73
Other Property.		
Flying horses,		$1,469 95
Total Amount of Permanent Investments,		$92,672 89
Total Property and Assets of Company,		$92,672 89

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks,		$5,059 68
TOTAL ADDITION TO PROPERTY,		$5,059 68
Property sold or reduced in valuation on the books, viz.,		927 50
Horses charged off,	$927 50	
NET ADDITION TO PROPERTY FOR THE YEAR,		$4,132 18

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$59,441 11
Equipment,	10,461 10
Land and buildings,	21,300 73
Other property,	1,469 95
Deficit,	8,318 96
TOTAL ASSETS,	$100,991 85

LIABILITIES.

Capital stock,	$40,000 00
Funded debt,	1,000 00
Unfunded debt,	59,991 85
TOTAL LIABILITIES,	$100,991 85

EDWARD P. SHAW,
Director.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS. Nov. 25, 1890. Then personally appeared Edward P. Shaw, and made oath to the truth of the foregoing statement by him subscribed, according to his best knowledge and belief.

ALBERT W. BOSSON,
Justice of the Peace.

REPORT

OF THE

PLYMOUTH & KINGSTON STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

[Operated by electricity.]

CAPITAL STOCK AND DEBT.

Capital Stock.

Capital stock authorized by charter,	$35,000 00	
Capital stock authorized by votes of company,	35,000 00	
Capital stock paid (par value of shares, $100),		$35,000 00
Number of stockholders,	33	

Debt.

Funded debt, as follows,		$35,000 00
Mortgage bonds due January, 1910, rate of interest 5 per cent.,	$35,000 00	
Unfunded debt, as follows,		5,500 00
Note payable, due November, 4 months,	$5,500 00	
Total Gross Debt,		$40,500 00
Amount of cash assets, viz.,		4,395 27
Cash,	$2,895 27	
Supplies,	1,500 00	
Net Debt,		$36,104 73

Permanent Investments.

Railway.

Grading and paving, and track, including timber, rails, etc., and laying,	$50,597 42
Engineering, agencies, salaries and other expenses during construction,	203 13
Total Cost of Construction,	$50,800 55

Equipment.

Cars,	$5,418 00
Other articles of equipment,	475 00
Total Cost of Equipment,	$5,893 00

Land and Buildings.

Land owned by company needed in operating road,	$400 00
Buildings owned by company needed in operating road,	2,478 91
Total Cost of Land and Buildings,	$2,878 91
Total Amount of Permanent Investments,	$59,572 46
Cash assets,	4,395 27
Total Property and Assets of Company,	$63,967 73

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks,	$8,112 30
New cars (number, 3),	2,218 00
Other equipment (snow plough and leveller),	475 00
Land and buildings,	852 91
TOTAL ADDITION TO PROPERTY,	$11,658 21

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$17,171 95
Income from other sources,		127 60
Sale of old iron,	$94 10	
Advertising in cars,	2 00	
Refund by contractor,	31 50	
TOTAL INCOME FROM ALL SOURCES,		$17,299 55

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$141 50
Repairs of cars and other vehicles, harness and horse-shoeing,	371 69
Power,	3,688 46
Wages and salaries of president, treasurer, superintendent and their clerks,	1,383 34
Wages and salaries of all other persons employed in operating the road,	5,583 53
Repairs of machinery,	1,168 09
Taxes, State and local,	206 08
Insurance,	67 13
Damages for injuries to persons and property,	11 50
Office expenses, and all other expenses not included above,	1,008 44
TOTAL EXPENSES OF OPERATING,	$13,629 76

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$3,669 79
Interest accrued during the year,	1,246 79
Balance for the year, or surplus,	2,423 00
Surplus at commencement of year,	3,404 27
Deduct: Loss on sale of bonds at a discount,	17,359 54
TOTAL DEFICIT SEPT. 30, 1890,	$11,532 27

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	4
Open cars,	4
Other articles of equipment: snow-plough; leveller.	
Number of box cars fitted with electric motors,	3
Number of open cars fitted with electric motors,	1

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$50,800 55
Equipment,	5,893 00
Land and buildings,	2,878 91
Cash and cash assets,	4,395 27
Deficit,	11,532 27
TOTAL ASSETS,	$75,500 00

LIABILITIES.	
Capital stock,	$35,000 00
Funded debt,	35,000 00
Unfunded debt,	5,500 00
TOTAL LIABILITIES,	$75,500 00

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To expenses,	$13,629 76
interest,	1,246 79
loss on sale of bonds,	17,359 54
	$32,236 09

CR.	
By balance Sept. 30, 1889,	$3,404 27
total income,	17,299 55
balance carried forward Sept. 30, 1890,	11,532 27
	$32,236 09

DESCRIPTION OF RAILWAY.	
Length of railway owned by company, measured as a single track, exclusive of sidings,	4.25 miles.
Aggregate length of switches, sidings, etc.,	.25 mile.
Total length of track, measured as single track,	4.5 miles.
Total length of track paved,	500 feet.
Weight of rail per yard, and description of rail: 35 pounds, T.	
Description of the several lines or routes operated by the company:	
From Jabez Corner, in Plymouth, to the store of Philander Cobb, in Kingston.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	4.25 miles.

MILES RUN, ETC.	
Total number of miles run during the year,	36,248
Total number of passengers carried in the cars,	348,646
Total number of round trips during the year,	8,529
Number of persons regularly employed by company,	7
Rates of fare,	5 cents.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890? Four and five-tenths miles.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse-cars. By electricity solely.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Thomson-Houston system; single trolley.

Average speed of the electric cars operated by your company, where not impeded by horse cars. About one mile in ten minutes.

Proper Address of the Company.

PLYMOUTH & KINGSTON STREET RAILWAY COMPANY,
Plymouth, Mass.

Name and Residence of Officers.

J. H. Cunningham, *President*, Chelsea, Mass. Charles E. Barnes, *Superintendent*, Plymouth, Mass. James D. Thurber, *Treasurer*, Plymouth, Mass. Thomas Loring, *Clerk of Corporation*, Plymouth, Mass.

Name and Residence of Directors last elected.

J. H. Cunningham, Chelsea, Mass. William H. Hidden, Cambridgeport, Mass. C. C. G. Thornton, Magnolia, Mass. A. R. Mitchell, Newtonville, Mass. Edward P. Shaw, Newburyport, Mass. Willard B. Ferguson, Salem, Mass. Albert L. Gordon, Newtonville, Mass.

J. H. CUNNINGHAM,
C. C. G. THORNTON,
EDWARD P. SHAW,
WILLARD B. FERGUSON,
Directors.
JAS. D. THURBER,
Treasurer.
CHARLES E. BARNES,
Superintendent.

Commonwealth of Massachusetts.

Suffolk, ss. Nov. 3, 1890. Then personally appeared John H. Cunningham, Edward P. Shaw, Willard B. Ferguson and C. C. G. Thornton, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

ALBERT D. BOSSON,
Justice of the Peace.

Commonwealth of Massachusetts.

Plymouth, ss. Oct. 28, 1890. Then personally appeared James D. Thurber and Charles E. Barnes, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

CHARLES S. DAVIS,
Justice of the Peace.

REPORT

OF THE

QUINCY STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

[This road is leased to and operated by the Quincy & Boston Street Railway Company.]

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$40,000 00	
Capital stock authorized by votes of company,	37,500 00	
Capital stock paid (par value of shares, $100),		$37,200 00
Number of stockholders,	88	
Debt.		
Unfunded debt, as follows,		$9 48
Bills payable,	$9 48	
Amount of cash assets, viz.,		$7,824 87
Quincy & Boston Street Railway Company,	$7,824 87	
Permanent Investments.		
Railway.		
Grading and paving,		$7,907 67
Track, including timber, rails, etc., and laying,		20,009 63
Interest during construction, commissions, discounts, etc.,		68 03
Engineering, agencies, salaries and other expenses during construction,		362 50
Total Cost of Construction,		$28,347 83
Total Amount of Permanent Investments,		$28,347 83
Cash assets,		7,824 87
Total Property and Assets of Company,		$36,172 70
Revenue for the Year.		
Received from other railways as tolls or rent,		$2,367 72
Quincy & Boston Street Railway Company,	$2,367 72	
Total Income from All Sources,		$2,367 72
Expenses for the Year.		
Salary of treasurer,		$125 00
Taxes, State and local,		555 22
Total Expenses,		$680 22

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME,	$1,687 50
Dividends declared (4½ per cent. for the year),	1,674 00
Balance for the year, or surplus,	13 50
Deficit at commencement of year,	1,050 28
DEFICIT SEPT. 30, 1890,	$1,036 78

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$28,347 83
Cash and cash assets,	7,824 87
Deficit,	1,036 78
TOTAL ASSETS,	$37,209 48

LIABILITIES.

Capital stock,	$37,200 00
Unfunded debt,	9 48
TOTAL LIABILITIES,	$37,209 48

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.

To balance Sept. 30, 1889,	$1,050 28
expenses,	680 22
dividends,	1,674 00
	$3,404 50

CR.

By total income,	$2,367 72
balance carried forward Sept. 30, 1890,	1,036 78
	$3,404 50

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	4.26 miles.
Aggregate length of switches, sidings, etc.,	.26 mile.
Total length of track, measured as single track,	4.52 miles.
Total length of track paved,	1.75 "

Weight of rail per yard, and description of rail: 30 and 35 pounds T.

PROPER ADDRESS OF THE COMPANY.

QUINCY STREET RAILWAY COMPANY,
QUINCY, MASS.

NAME AND RESIDENCE OF OFFICERS.

John F. Merrill, *President*, Quincy, Mass. Fred'k H. Smith, *Treasurer and Clerk of Corporation*, Quincy Point, Mass.

Name and Residence of Directors last elected.

John F. Merrill, Quincy, Mass. Frank P. Waterhouse, Wollaston, Mass. Fred'k H. Smith, Quincy Point, Mass. John E. Drake, Quincy, Mass. Henry E. Sheldon, East Milton, Mass. J. Parker Hayward, Braintree, Mass. Henry McGrath, Quincy, Mass.

JOHN F. MERRILL,
FRED'K H. SMITH,
HENRY E. SHELDON,
J. PARKER HAYWARD,
Directors.

FRED'K H. SMITH,
Treasurer.

Commonwealth of Massachusetts.

Norfolk, ss. Quincy, Oct. 2, 1890. Then personally appeared John F. Merrill, Fred'k H. Smith, Henry E. Sheldon and J. Parker Hayward, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

WM. G. A. POTTER,
Justice of the Peace.

REPORT

OF THE

QUINCY & BOSTON STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$50,000 00	
Capital stock authorized by votes of company,	50,000 00	
Capital stock paid (par value of shares, $100),		$50,000 00
Number of stockholders,	60	
Debt.		
Unfunded debt, as follows,		$27,824 87
Notes payable,	$20,000 00	
Quincy Street Railway Company (under lease) equipment and supplies,	7,824 87	
Amount of cash assets, viz.,		8,713 44
Cash,	$4,850 57	
Supplies,	3,815 62	
Debit balances,	47 25	
NET DEBT,		$19,111 43
Permanent Investments.		
Railway.		
Grading and paving,		$1,687 23
Track, including timber, rails, etc , and laying,		26,355 58
Interest during construction, commissions, discounts, etc.,		5,168 50
Engineering, agencies, salaries and other expenses during construction,		2,851 52
TOTAL COST OF CONSTRUCTION,		$36,062 83
Equipment.		
Horses,		$180 00
Cars,		31,663 46
Other articles of equipment,		449 31
TOTAL COST OF EQUIPMENT,		$32,292 77
Land and Buildings.		
Land owned by company needed in operating road,		$3,797 53
Buildings owned by company needed in operating road,		3,662 45
TOTAL COST OF LAND AND BUILDINGS,		$7,459 98
TOTAL AMOUNT OF PERMANENT INVESTMENTS,		$75,815 58
Cash assets,		8,713 44
TOTAL PROPERTY AND ASSETS OF COMPANY,		$84,529 02

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks,		$10,582 65
New cars,		26,530 66
Other equipment,		232 95
Land and buildings,		2,522 86
TOTAL ADDITION TO PROPERTY,		$39,869 12
Property sold or reduced in valuation on the books, viz.,		7,920 12
Rails, ties, etc., sold,	$3,787 09	
Amount of supplies on hand charged from construction account to supply account,	2,929 12	
Two cars sold, $375; loss on same, $125,	500 00	
Amount of supplies on hand charged from equipment account to supply account,	98 00	
Land sold,	548 91	
Amount of supplies on hand charged from land and buildings to supply account,	57 00	
NET ADDITION TO PROPERTY FOR THE YEAR,		$31,949 00

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$28,503 49
Income from other sources,		533 29
Interest City National Bank,	$42 75	
Profit on railroad tickets,	278 38	
Bills receivable,	114 53	
Account treasurer's bond, $37.50; rebate in tax, .13,	37 63	
Account capital stock,	60 00	
TOTAL INCOME FROM ALL SOURCES,		$29,036 78

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,		$736 87
Repairs of cars and other vehicles, harness and horse-shoeing,		1,336 60
Wages and salaries of treasurer, superintendent and their clerks,		2,572 80
Wages and salaries of all other persons employed in operating the road,		7,637 95
Provender,		239 92
Taxes, State and local,		527 52
Rent and tolls paid other companies for use of their roads,		2,367 72
Quincy Street Railway Company (under lease).		
Wilson Tisdale,	$428 00	
Quincy Electric Light & Power Company,	4,254 14	
		4,682 14
Insurance,		139 75
Damages for injuries to persons and property,		39 45
Office expenses, and all other expenses not included above,		3,838 00
TOTAL EXPENSES OF OPERATING,		$24,118 72

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,		$4,918 06
Interest accrued during the year,		450 00

Balance for the year, or surplus,		$4,468 06
Surplus at commencement of year,	$2,361 09	
Deduct: loss on two cars,	125 00	
Surplus at commencement of year, as charged by aforesaid entries,		2,236 09
TOTAL SURPLUS SEPT. 30, 1890,		$6,704 15

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	8
Open cars,	7
Horses,	1
Harnesses (pairs of),	4
Other articles of equipment: One snow-plough, 1 tool car, 1 tip cart, 1 democrat wagon, 1 express, 1 light wagon.	
Number of box cars fitted with electric motors,	4
Number of open cars fitted with electric motors,	1

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$36,062 83
Equipment,	32,292 77
Land and buildings,	7,459 98
Cash and cash assets,	8,713 44
TOTAL ASSETS,	$84,529 02

LIABILITIES.

Capital stock,	$50,000 00
Unfunded debt,	27,824 87
Surplus,	6,704 15
TOTAL LIABILITIES,	$84,529 02

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.

To expenses,	$24,118 72
interest,	450 00
loss on sale of two cars,	125 00
balance carried forward Sept. 30, 1890,	6,704 15
	$31,397 87

CR.

By balance Sept. 30, 1889,	$2,361 09
total income,	29,036 78
	$31,397 87

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	3.30 miles.
Aggregate length of switches, sidings, etc.,	.114 mile.

Total length of track, measured as single track, . . .	3.414 miles.
Total length of track paved, ...	1.35 "
Weight of rail per yard and description of rail: T, 30 and 35 pounds; Johnson, 38 pounds.	
Length of railway belonging to other companies, measured as single track, not including sidings, etc., operated by this company, or over which this company runs its cars, with the description of same, ...	4.26 miles.
Quincy Street Railway Company.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company, . .	7.56 "
MILES RUN, ETC.	
Total number of miles run during the year, ...	99,997
Total number of passengers carried in the cars, . . .	579,347
Total number of round trips for the year, ...	21,804
Number of persons regularly employed by the company, .	15
Rates of fare, ...	5 and 8 cents.

LIST OF ACCIDENTS.

	FROM CAUSES BEYOND THEIR OWN CONTROL.		FROM THEIR OWN MISCONDUCT OR CARELESSNESS.		TOTAL.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, ...	-	-	-	3	-	3
Employees, ...	-	-	-	-	-	-
Others, ...	-	-	-	-	-	-

STATEMENT OF EACH ACCIDENT.

Sept. 1, 1890. — Three passengers jumped from cars, fearing collision; were slightly injured.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890? Seven and fifty-six one-hundredths miles.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse cars. Operated in part by horses until November 1, then by electricity.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Thomson-Houston; single trolley.

Average speed of the electric cars operated by your company, where not impeded by horse cars. Eleven miles per hour.

PROPER ADDRESS OF THE COMPANY.

QUINCY & BOSTON STREET RAILWAY COMPANY,
QUINCY, MASS.

NAME AND RESIDENCE OF OFFICERS.

J. Q. Adams, *President*, Quincy, Mass. John A. Duggan, *Superintendent*, Quincy, Mass. Arthur Burnham, *Treasurer*, Boston, Mass. Fred'k H. Smith, *Clerk of Corporation*, Quincy, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

J. Q Adams, Quincy, Mass. Arthur Burnham, Boston, Mass. J. A. Duggan, Quincy, Mass. Josiah Quincy, Quincy, Mass. Wm. A. Hodges, Quincy, Mass. H. T. Whitman, Quincy, Mass. T. H. McDonnell, Quincy, Mass. Winthrop Coffin, Newton, Mass.

J. Q. ADAMS,
ARTHUR BURNHAM,
WINTHROP COFFIN,
T. H. McDONNELL,
JOHN A. DUGGAN,
Directors.

ARTHUR BURNHAM,
Treasurer.

JOHN A. DUGGAN,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. BOSTON, Oct. 30, 1890. Then personally appeared Arthur Burnham, treasurer, and J. Q. Adams, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

CHAS. H. SHRIVER,
Justice of the Peace.

REPORT

OF THE

SOMERVILLE HORSE RAILROAD COMPANY,

For the Year ending Sept. 30, 1890.

[This road is leased to and operated by the West End Street Railway Company.]

CAPITAL STOCK AND DEBT.

Capital Stock.

Capital stock authorized by charter,	$153,000 00	
Capital stock authorized by votes of company,	153,000 00	
Capital stock paid (par value of shares, $50),		$153,000 00
Number of stockholders,	28	

Permanent Investments.

Railway.

Total Cost of Construction,		$153,000 00
Total Property and Assets of Company,		$153,000 00

Revenue for the Year.

Received from other railways as tolls or rent,		$9,180 00
West End Street Railway Company,	$9,180 00	
Total Income from All Sources,		$9,180 00

Net Income, Dividends, etc.

Total Net Income above Operating Expenses,		$9,180 00
Dividends declared (6 per cent. for the year),		9,180 00

General Balance Sheet Sept. 30, 1890.

Assets.

Construction,	$153,000 00
Total Assets,	$153,000 00

Liabilities.

Capital stock,	$153,000 00
Total Liabilities,	$153,000 00

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

Dr.

To dividends,	$9,180 00
	$9,180 00

Cr.

By total income,	$9,180 00
	$9,180 00

Description of Railway.

Length of railway owned by company, measured as a single track, exclusive of sidings, ...	4.879 miles.
Aggregate length of switches, sidings, etc., ...	.526 mile.
Total length of track, measured as single track, . . .	5.405 miles.

Proper Address of the Company.

SOMERVILLE HORSE RAILROAD COMPANY,
81 Milk Street, Room 38, Boston, Mass.

Name and Residence of Officers.

Josiah Q. Bennett, *President*, Cambridge, Mass. John H. Studley, Jr., *Treasurer and Clerk of Corporation*, Malden, Mass.

Name and Residence of Directors last elected.

Josiah Q. Bennett, Cambridge, Mass. Charles E. Powers, Boston, Mass. Reuben E. Demmon, Boston, Mass. George A. Davy, Boston, Mass. John H. Studley, Jr., Malden, Mass.

JOSIAH Q. BENNETT,
CHAS. E. POWERS,
GEO. A. DAVY,
JOHN H. STUDLEY, Jr.,
REUBEN E. DEMMON,
Directors.

JOHN H. STUDLEY, Jr.,
Treasurer.

Commonwealth of Massachusetts.

Suffolk, ss. Oct. 31, 1890. Then personally appeared Josiah Q. Bennett, Charles E. Powers, George H. Davy, John H. Studley, Jr., and Reuben E. Demmon, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

ALFRED W. CARR,
Justice of the Peace.

REPORT

OF THE

SPRINGFIELD STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.

Capital Stock.

Capital stock authorized by charter,	$400,000 00	
Capital stock authorized by votes of company,	400,000 00	
Capital stock paid (par value of shares, $100),		$400,000 00
Number of stockholders,	139	

Debt.

Unfunded debt, as follows,		76,507 80
Bills payable,	$74,934 70	
Unredeemed tickets,	1,573 10	
Total Gross Debt,		$76,507 80
Amount of cash assets, viz.,		13,798 98
Cash,	$1,965 32	
Supplies,	8,479 00	
Debit balances,	3,354 66	
Net Debt,		$62,708 82

Permanent Investments.

Railway.

Grading and paving, and track, including timber, rails, etc., and laying,	$275,449 06
Interest during construction, commissions, discounts, etc.,	2,109 00
Total Cost of Construction,	$277,558 06

Equipment.

Horses,	$39,329 66
Cars,	50,530 28
Other articles of equipment,	21,701 54
Total Cost of Equipment,	$111,561 48

Land and Buildings.

Land and buildings owned by company needed in operating road,	$139,965 54
Total Cost of Land and Buildings,	$139,965 54

TOTAL AMOUNT OF PERMANENT INVESTMENTS,		$529,085 08
Cash assets,		13,798 98
TOTAL PROPERTY AND ASSETS OF COMPANY,		$542,884 06

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks,*		$73,864 31
New horses (number, 24),		3,600 00
New cars (number, 7),		6,775 28
Other equipment,		13,460 04
Land and buildings,		558 26
TOTAL ADDITION TO PROPERTY,		$98,257 89
Property sold or reduced in valuation on the books, viz.,		20,890 08
Construction reduced in valuation on the books,	$11,688 73	
Car equipment reduced in valuation on the books,	8,438 81	
Sundry equipment reduced in valuation on the books,	762 54	
NET ADDITION TO PROPERTY FOR THE YEAR,		$77,367 81

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$180,990 50
Received from sales of manure,		1,117 38
TOTAL EARNINGS,		$182,107 88
Income from other sources,		5,999 45
Advertising,	$425 00	
Rents,	5,574 45	
TOTAL INCOME FROM ALL SOURCES,		$188,107 33

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$6,404 56
Repairs of cars and other vehicles, harness and horse-shoeing,	12,505 36
Repairs of buildings,	1,810 17
Renewal of horses,	4,528 00
Wages and salaries of president, treasurer, superintendent and their clerks,	7,000 00
Wages and salaries of all other persons employed in operating the road,	75,081 35
Provender,	31,930 14
Taxes, State and local,	6,989 04
Electric power,	942 50
Insurance,	1,803 83
Damages for injuries to persons and property,	5,192 10
Office expenses, and all other expenses not included above,	3,447 63
TOTAL EXPENSES OF OPERATING,	$157,634 68

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$30,472 65
Dividends declared (8 per cent. for the year),†	30,000 00

---

* Extension of tracks, 10,900 feet; block paving, 8,600 feet; change of construction preparatory for electricity, 14,125 feet; electric construction (wires and poles), 13,200 feet.

† June, 1890, capital stock was increased $50,000.

Balance for the year, or surplus,			$472 65
Surplus at commencement of year,		$85,114 03	
Deduct:			
Construction reduced in value,	$11,688 73		
Car equipment reduced in value,	8,438 81		
Sundry equipment reduced in value,	762 54		
	$20,890 08		
Add: Unredeemed tickets reduced in value,	1,679 66		
		$19,210 42	
Surplus at commencement of year, as changed by aforesaid entries,			65,903 61
TOTAL SURPLUS SEPT. 30, 1890,			$66,376 26

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	42
Open cars,	32
Horses,	280
Harnesses (pairs of),	50
Omnibuses,	1
Sleighs,	5
Other articles of equipment: Four snow-ploughs, 1 wagon, 2 carts, 1889; 5 show-ploughs, 2 wagons, 2 carts, 1890.	
Number of box cars fitted with electric motors,	4

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$277,558 06
Equipment,	111,561 48
Land and buildings,	139,965 54
Cash and cash assets,	13,798 98
TOTAL ASSETS,	$542,884 06

LIABILITIES.

Capital stock,	$400,000 00
Unfunded debt,	74,934 70
Surplus,	66,376 26
Unredeemed tickets,	1,573 10
TOTAL LIABILITIES,	$542,884 06

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.

To expenses,	$157,634 68
dividends,	30,000 00
balance carried forward Sept. 30, 1890,	66,376 26
	$254,010 94

CR.

By balance Sept. 30, 1889,	$65,903 61
total income,	188,107 33
	$254,010 94

Description of Railway.

Length of railway owned by company, measured as a single track, exclusive of sidings, ...	20.75 miles.
Aggregate length of switches, sidings, etc., ...	.65 mile.
Total length of track, measured as single track, . . .	21 40 miles.
Total length of track paved, ...	21.40 miles.
Description of the several lines or routes operated by the company:	
From Chicopee Centre, on Centre Street in Chicopee, to Main Street, Springfield; on Main, on Locust, on Fort Pleasant Avenue, on Sumner Avenue to Forest Park.	
Main and State streets.	
Main, State Street and St James Avenue.	
Main, State, Walnut and King streets.	
Carew, Chestnut, Lyman, Main, State, Maple and Central streets to U. S. Water Shops.	
From Church Street, in Chicopee Falls, on Front Street, Centre, Grove, Front streets, in Chicopee, Market Square and Exchange Street.	
From Mitteneague, on Westfield Road, Elm, Park, Main, Bridge streets; and in Springfield, Bridge, Main, Lyman, Chestnut, and Worthington streets.	
Carew and Chestnut streets to City Hospital.	
Total length of railway, measured as single track, not including sidings, etc., operated by this company, . .	20.75 miles.

Miles Run, etc.

Total number of miles run during the year, ...	683,991
Total number of passengers carried in the cars, . . .	3,628,008
Total number of round trips for the year, ...	114,268
Number of persons regularly employed by company, . .	156
Rates of fare, ...	5 cents.

List of Accidents.

	From Causes beyond their own Control.		From their own Misconduct or Carelessness.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, ...	–	1	–	2	–	3
Employees, ...	–	–	–	–	–	–
Others, ...	–	–	1	1	1	1

Statement of Each Accident.

Oct. 29, 1889. — An intoxicated woman fell against a moving car and was injured.

June 20, 1890. — A mounted policeman's horse backed into an electric car; he was thrown from his horse and died from his injuries.

July 26. — A woman was thrown from car in motion.

September 20. — A woman stepped from car in motion and was thrown down.

September 23. — A woman stepped from car in motion and was thrown down.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890? Two and one-half miles.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were partly used by the electric cars and partly by the horse-cars. On one-half distance used by both.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Thomson-Houston; underrunning single trolley system.

Average speed of the electric cars operated by your company, where not impeded by horse-cars. Eight miles per hour.

PROPER ADDRESS OF THE COMPANY.

SPRINGFIELD STREET RAILWAY COMPANY,
SPRINGFIELD, MASS.

NAME AND RESIDENCE OF OFFICERS.

John Olmsted, *President*, Springfield, Mass. A. E. Smith, *Treasurer and Managing Director*, Springfield, Mass. Gideon Wells, *Clerk of Corporation*, Springfield, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

John Olmsted, Springfield, Mass. G. M. Atwater, Springfield, Mass. James Kirkham, Springfield, Mass. Gideon Wells, Springfield, Mass. A. E. Smith, Springfield, Mass.

JOHN OLMSTED,
GEO. M. ATWATER,
JAMES KIRKHAM,
GIDEON WELLS,
A. E. SMITH,
Directors.

A. E. SMITH,
Treasurer.

A. E. SMITH,
Manager.

COMMONWEALTH OF MASSACHUSETTS.

HAMPDEN, ss. Springfield, Oct. 13, 1890. Then personally appeared John Olmsted, Geo. M. Atwater, James Kirkham, Gideon Wells and A. E. Smith, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

JONATHAN BARNES,
Justice of the Peace.

REPORT

OF THE

TAUNTON STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$100,000 00	
Capital stock authorized by votes of company,	100,000 00	
Capital stock paid (par value of shares, $100),		$100,000 00
Number of stockholders,	164	
Debt.		
Unfunded debt, as follows,		$44,000 00
Notes payable,	$44,000 00	
Amount of cash assets:		
Cash,		4,589 33
Net Debt,		$39,410 67
Permanent Investments.		
Railway.		
Total Cost of Construction,		$89,801 15
Equipment.		
Horses,		$12,743 13
Cars,		19,797 11
Other articles of equipment,		2,396 41
Total Cost of Equipment,		$34,936 65
Land and Buildings.		
Land and buildings owned by company needed in operating road,		$25,588 92
Total Cost of Land and Buildings,		$25,588 92
Total Amount of Permanent Investments,		$150,326 72
Cash assets,		4,589 33
Total Property and Assets of Company,		$154,916 05
Property Accounts: Charges and Credits during the Year.		
Extension of tracks and improvement,		$10,341 94
New horses,		102 20
Total Addition to Property,		$10,444 14
Revenue for the Year.		
Received from passengers on railways operated by this company,		$37,560 31
Total Income from All Sources,		$37,560 31

Expenses of Operating for the Year.

Repairs of road-bed and track,	$1,441 55
Repairs of cars and other vehicles, harness and horse-shoeing,	3,461 53
Repairs of buildings,	153 20
Renewal of horses,	839 54
Wages and salaries of president, treasurer, superintendent and their clerks,	1,750 00
Wages and salaries of all other persons employed in operating the road,	11,653 16
Provender,	8,392 55
Taxes, State and local,	1,113 97
Insurance,	577 75
Office expenses, and all other expenses not included above,	1,921 40
TOTAL EXPENSES OF OPERATING,	$31,304 65

Net Income, Dividends, etc.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,	$6,255 66
Interest accrued during the year,	2,008 49
Dividends declared (4 per cent. for the year),	4,000 00
Balance for the year, or surplus,	247 17
Surplus at commencement of year,	10,668 88
TOTAL SURPLUS SEPT. 30, 1890,	$10,916 05

Inventory of Equipment Sept. 30, 1890.

Box-cars,	13
Open cars,	10
Horses,	88
Harnesses (pairs of),	24

General Balance Sheet Sept. 30, 1890.

Assets.

Construction,	$89,801 15
Equipment,	34,936 65
Land and buildings,	25,588 92
Cash and cash assets,	4,589 33
TOTAL ASSETS,	$154,916 05

Liabilities.

Capital stock,	$100,000 00
Unfunded debt,	44,000 00
Surplus,	10,916 05
TOTAL LIABILITIES,	$154,916 05

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

Dr.

To expenses,	$31,304 65
interest,	2,008 49
dividends,	4,000 00
balance carried forward Sept. 30, 1890,	10,916 05
	$48,229 19

Cr.	
By balance Sept. 30, 1889,	$10,668 88
total income,	37,560 31
	$48,229 19

Description of Railway.	
Length of railway owned by company, measured as a single track, exclusive of sidings,	8.0935 miles.
Aggregate length of switches, sidings, etc.,	1.9628 mile.
Total length of track, measured as single track,	10.0563 miles.
Total length of track paved,	5.7814 "
Total length of railway, measured as single track, not including sidings, etc., operated by this company,	8 0935 miles.
Miles Run, etc.	
Total number of miles run during the year,	175,434
Total number of passengers carried in the cars,	767,292
Total number of round trips for the year,	36,913
Number of persons regularly employed by company,	95
Rates of fare,	5 cents.

Proper Address of the Company.

TAUNTON STREET RAILWAY COMPANY,
Taunton, Mass.

Name and Residence of Officers.

Wm. C. Lovering, *President*, Taunton, Mass. Geo. C. Morse, *Superintendent*, Taunton, Mass. Henry M. Lovering, *Treasurer*, Taunton, Mass. Orville A. Barker, *Clerk of Corporation*, Taunton, Mass.

Name and Residence of Directors last elected.

Wm. C. Lovering, Taunton, Mass. Henry G. Reed, Taunton, Mass. A. J. Barker, Taunton, Mass. Henry M. Lovering, Taunton, Mass. S. N. Staples, Taunton, Mass. Chas. Foster, Taunton, Mass. N. H. Skinner, Taunton, Mass. Parley I. Perrin, Taunton, Mass. Ezra Davol, Taunton, Mass. Wm. H. Phillips, Taunton, Mass.

WM. C. LOVERING,
HENRY G. REED,
A. J. BARKER,
S. N. STAPLES,
N. H. SKINNER,
CHARLES FOSTER,
PARLEY I. PERRIN,
EZRA DAVOL,
HENRY M. LOVERING,
Directors.
HENRY M. LOVERING,
Treasurer.
GEORGE C. MORSE,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

BRISTOL, ss. Oct. 20, 1890. Then personally appeared Wm. C. Lovering, Henry G. Reed, A. J. Barker, S. N. Staples, N. H. Skinner, Charles Foster, Parley I. Perrin, Ezra Davol and Henry M. Lovering, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

ORVILLE A. BARKER,
Justice of the Peace.

REPORT

OF THE

UNION STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.

Capital Stock.

Capital stock authorized by charter,	$260,000 00	
Capital stock authorized by votes of company,	260,000 00	
Capital stock paid (par value of shares, $100),		$260,000 00
Number of stockholders,	161	

Debt.

Funded debt, as follows,		$93,000 00
Bonds due July 2, 1898, rate of interest 5 per cent.,	$93,000 00	
Unfunded debt, as follows,		19,004 94
Notes payable,	$11,000 00	
Accounts payable,	2,945 44	
Dividend unpaid,	3,897 00	
Interest accrued not due,	1,162 50	
Total Gross Debt,		$112,004 94
Amount of cash assets, viz.,		6,413 91
Cash,	$1,642 52	
Supplies,	4,524 46	
Debit balances,	246 93	
Net Debt,		$105,591 03

Permanent Investments.

Railway.

Grading and paving and track, including timber, rails, etc., and laying,	$201,658 44
Interest during construction, commissions, discounts, etc.,	3,295 86
Engineering, agencies, salaries and other expenses during construction,	2,614 90
Electric construction,	15,163 59
Total Cost of Construction,	$222,732 79

Equipment.

Horses,	$26,200 00
Cars, including $5,713.01 for electric cars,	54,551 91
Other articles of equipment, including $222.22 for electric equipment,	8,026 31
Total Cost of Equipment,	$88,778 22

LAND AND BUILDINGS.

Land owned by company needed in operating road,	$24,457 80
Buildings owned by company needed in operating road,	47,485 82
TOTAL COST OF LAND AND BUILDINGS,	$71,943 62
TOTAL AMOUNT OF PERMANENT INVESTMENTS,	$383,454 63
Cash assets,	6,413 91
TOTAL PROPERTY AND ASSETS OF COMPANY,	$389,868 54

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Electric construction,		$15,163 59
New horses (number, 7),		952 00
New cars, including 5 electrics, $5,713.01 (number, 8),		8,551 91
Other equipment (including $222.22 for electric equipment),		376 42
TOTAL ADDITION TO PROPERTY,		$25,043 92
Property sold or reduced in valuation on the books, viz.,		7,247 00
Five cars sold,	$2,000 00	
One tip cart sold,	15 00	
Reduction in valuation of horses,	5,232 00	
NET ADDITION TO PROPERTY FOR THE YEAR,		$17,796 92

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$143,000 44
Received from sales of manure,		1,634 84
TOTAL EARNINGS,		$144,635 28
Income from other sources,		1,088 18
Advertising,	$56 25	
Rents,	490 85	
Sale of old barrels,	25 40	
Sale of old rails,	515 68	
TOTAL INCOME FROM ALL SOURCES,		$145,723 46

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$2,348 97
Repairs of cars and other vehicles, harness and horse-shoeing,	10,732 51
Repairs of buildings,	2,719 47
Renewal of horses,	4,256 19
Wages and salaries of president, treasurer, superintendent and their clerks,	4,279 00
Wages and salaries of all other persons employed in operating the road,	52,806 06
Provender,	21,770 03
Taxes, State and local,	4,503 54
Insurance,	1,330 36
Damages for injuries to persons and property (including unsettled claims of previous years, amounting to $5,528.49),	6,101 56
Office expenses, and all other expenses not included above,	5,854 80
TOTAL EXPENSES OF OPERATING,	$116,702 49

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,			$29,020 97
Interest accrued during the year,			5,134 55
Dividends declared (6 per cent. for the year on $259,800),			15,588 00
Balance for the year, or surplus,			8,298 42
Surplus at commencement of year,		$30,746 46	
Deduct:			
Acushnet Street railway bills paid,	$300 00		
Reduction in valuation of horses,	5,232 00		
Dividends paid 10 per cent., 1889, on $259,700 (from earnings previous year),	15,582 00		
Loss through insolvent debtor,	26 38		
Loss by safe robbery,	43 90		
		$21,184 28	
		$9,562 18	
Add: discount on old account in settlement,		3 00	
Surplus at commencement of year, as changed by aforesaid entries,			9,565 18
TOTAL SURPLUS SEPT. 30, 1890,			$17,863 60

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	
Open cars,	35
Horses,	37
Harnesses (pairs of),	262
Single express harnesses,	55
Single tow harnesses,	3
Double team harness,	7
Sleighs,	1
Other articles of equipment:	3
Two snow-ploughs, 6 snow-sleds, 2 express wagons, 1 heavy wagon, 1 buggy, 1 sand car.	
Number of box cars fitted with electric motors,	5

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$222,732 79
Equipment,	88,778 22
Land and buildings,	71,943 62
Cash and cash assets,	6,413 91
TOTAL ASSETS,	$389,868 54

LIABILITIES.

Capital stock,	$260,000 00
Funded debt,	93,000 00
Unfunded debt,	19,004 94
Surplus,	17,863 60
TOTAL LIABILITIES,	$389,868 54

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

Dr.	
To expenses,	$116,702 49
interest,	5,134 55
dividends,	15,588 00
dividends from earnings previous year,	15,582 00
Acushnet Street Railway, bills paid,	300 00
loss through insolvent debtor,	26 38
loss by safe robbery,	43 90
reduction in valuation of horses,	5,232 00
balance carried forward Sept. 30, 1890,	17,863 60
	$176,472 92

Cr.	
By balance Sept. 30, 1889,	$30,746 46
total income,	145,723 46
discount in settlement of old account,	3 00
	$176,472 92

Description of Railway.

Length of railway owned by company, measured as a single track, exclusive of sidings,	14.513 miles.
Aggregate length of switches, sidings, etc.,	1.614 "
Total length of track, measured as single track,	16.127 "
Total length of track paved,	15.44 "

Weight of rail per yard, and description of rail: 35 and 45 pounds iron tram rail; 35 and 50 pounds steel tram, and 38½ pounds Johnson.

Description of the several lines or routes operated by the company:

Main Line.

Lund's Corner, through Acushnet Avenue, Purchase, Fourth, Rivet and Water streets, and French Avenue to Woodlawn, and from Fourth, through Potonska and Water streets to Rivet Street.

Mt. Pleasant and Dartmouth Streets Line.

From Mt. Pleasant, through Durfee, Cedar, Morgan, Ash and Union streets, Acushnet Avenue, Bedford, Green, Allen and Dartmouth streets to Rural Cemetery.

Fairhaven Line.

From Parker Street, through Summer, Elm, Sixth, William, Second, and Middle streets, across the bridge; and in Fairhaven, through Main, Church, and Fort streets to Fort Phœnix, with branch from Main Street to Old Colony depot, and a branch on North Main Street to Oxford Village.

Kempton Street Line.

On Kempton Street, from Cedar Street to Rockdale Avenue.

Total length of railway, measured as single track, not including sidings, etc., operated by this company,	14.513 miles.

MILES RUN, ETC.

Total number of miles run during the year,	538,829
Total number of passengers carried in the cars (including 184,890 free transfers),	3,235,116
Total number of round trips for the year,	119,302
Number of persons regularly employed by company,	109
Rates of fare, 5 cts.; children between 4 and 12 years, 3 cts.	

LIST OF ACCIDENTS.

	From Causes beyond their own Control.		From their own Misconduct or Carelessness.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	-	-	3	-	3
Employees,	-	-	-	2	-	2
Others,	-	-	-	1	-	1

STATEMENT OF EACH ACCIDENT.

Nov. 1, 1889. — Man fell while stepping from a car.

December 14. — Lady slipped as she was stepping from a car that had stopped.

December 19. — Man had a fit and fell from front platform.

December 23. — Child four years old ran from sidewalk directly against a car; fingers crushed by wheel.

Jan. 21, 1890. — Conductor, while holding a horse near railroad crossing, was run over and somewhat bruised.

March 3. — Hostler kicked by a horse and had his hand cut.

Number of miles of track for electric railway under construction Sept. 30, 1890. Equipping old track with overhead wire, three and five tenths miles.

Name of system, Thomson-Houston; single trolley.

PROPER ADDRESS OF THE COMPANY.

UNION STREET RAILWAY COMPANY,
NEW BEDFORD, MASS.

NAME AND RESIDENCE OF OFFICERS.

Samuel C. Hart, *President*, New Bedford, Mass. Franklin Woodman, *Superintendent*, New Bedford, Mass. William H. Allen, *Treasurer and Clerk of Corporation*, New Bedford, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Samuel C. Hart, New Bedford, Mass. Andrew G. Pierce, New Bedford, Mass. William W. Crapo, New Bedford, Mass. Charles E. Cook, New

Bedford, Mass. J. A. Beauvais, New Bedford, Mass. Abbott P. Smith, New Bedford, Mass. Charles H. Gifford, New Bedford, Mass. Weston Howland, Fairhaven, Mass. James E. Dwight, New Bedford, Mass.

SAMUEL C. HART,
CHAS. H. GIFFORD,
WESTON HOWLAND,
J. A. BEAUVAIS,
JAMES E. DWIGHT,
Directors.

WILLIAM H. ALLEN,
Treasurer.

FRANKLIN WOODMAN,
Superintendent.

COMMONWEALTH OF MASSACHUSETTS.

BRISTOL, ss. NEW BEDFORD, Nov. 4, 1890. Then personally appeared Samuel C. Hart, Charles H. Gifford, Weston Howland, J. A. Beauvais, James E. Dwight, William H. Allen and Franklin Woodman, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

E. H. BROWN,
Justice of the Peace.

REPORT

OF THE

WEST END STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

CAPITAL STOCK AND DEBT.

Capital Stock.

Capital stock authorized by charter: Common,	$5,500,000 00	
Capital stock authorized by charter: Preferred,	6,400,000 00	$11,900,000 00
Capital stock authorized by votes of company,	* $11,900,000 00	
Capital stock paid (par value of shares, $50), Common,		$3,491,150 00
Capital stock paid (par value of shares, $50), Preferred,		6,400,000 00
Total capital stock,		$9,891,150 00
Number of stockholders: Common, 409 Preferred, 2,859	3,268	
Debt.		
Funded debt, as follows,		$4,034,442 12
Six per cent. bonds due in 1897,	$700,000 00	
Six per cent. bonds due in 1898,	100,000 00	
Five per cent. bonds due in 1902,	300,000 00	
Five per cent. bonds due in 1903,	1,100,000 00	
Five per cent. bonds due in 1904,	350,000 00	
Five per cent. bonds due in 1905,	200,000 00	
Five per cent. bonds due in 1907,	500,000 00	
Mortgage notes,	784,442 12	
Unfunded debt, as follows,		3,246,659 33
Notes payable,	$2,403,748 26	
Vouchers and accounts,	644,748 73	
Accrued interest not yet due,	40,958 34	
Accrued preferred dividends (three months to Sept. 30, 1890),	128,000 00	
Dividends and coupons not called for,	29,204 00	
Total Gross Debt,		$7,281,101 45
Amount of cash assets, viz.,		1,837,103 05
Cash,	$656,378 21	
Malden & Melrose Railroad Company,	214,519 83	
Supplies,	368,921 11	
Somerville Horse Railroad Company,	81,633 61	
Stocks and bonds,	75,100 00	
Lawrence land (Beacon Street),	105,777 45	
Debit balances,	334,772 84	
Net Debt,		$5,443,998 40

---

* The balance of the capital stock authorized to be issued ($2,008,050) has been subscribed for, and stands on the books of the company to the credit of "Capital stock subscriptions," with a corresponding debit to "Subscribers to capital stock."

PERMANENT INVESTMENTS.		
RAILWAY.		
TOTAL COST OF CONSTRUCTION,		$5,309,173 09
EQUIPMENT.		
Horses,		$928,218 00
Cars,		2,503,025 64
Other articles of equipment,		1,153,742 42
TOTAL COST OF EQUIPMENT,		$4,584,986 06
LAND AND BUILDINGS.		
Land and buildings owned by company needed in operating road,		$5,796,547 53
TOTAL COST OF LAND AND BUILDINGS,		$5,796,547 53
OTHER PROPERTY.*		
TOTAL AMOUNT OF PERMANENT INVESTMENTS,		$15,690,706 68
Cash assets,		1.837,103 05
TOTAL PROPERTY AND ASSETS OF COMPANY,		$17,527,809 73
PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.		
Extension of tracks (number of miles, 4.42),		$53,473 28
Reconstruction of tracks, electrical construction, etc.,		556,667 56
New cars (motor cars; number, 193),		953,653 59
Other equipment,		479,550 14
Land and buildings,		976,905 36
TOTAL ADDITION TO PROPERTY,		$3,020,249 93
Property sold or reduced in valuation on the books, viz.,		240,149 24
Horses sold,	$107,334 00	
Cars,	2,025 00	
Miscellaneous equipment sold and destroyed,	10,988 57	
Track taken up, 1.55 miles,	26,349 99	
Real estate sold and buildings destroyed,	93,451 68	
NET ADDITION TO PROPERTY FOR THE YEAR,		$2,780,100 69
REVENUE FOR THE YEAR.		
Received from passengers on railways operated by this company,		$5,678,390 07
Received from other railways as tolls or rent,		12,986 35
Lynn & Boston Railroad Company,	$11,717 85	
East Middlesex Street Railway Company,	1,196 57	
No. Woburn Street Railway Company,	71 93	
Received from sales of manure,		17,241 84
TOTAL EARNINGS,		$5,708.618 26
Income from other sources:		71,464 31
Rent of real estate,	$20.382 35	
Advertising,	27,209 00	
Miscellaneous,	23,872 96	
TOTAL INCOME FROM ALL SOURCES,		$5,780,082 57

---

* The amount standing to the debit of "Construction Electric Road," Sept. 30, 1889, $412,600.99, was distributed during the year to the following accounts:

Construction,	$46,286 74
Real estate,	69,721 21
General equipment,	296,593 04

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,		$285.053 96
Repairs of cars and other vehicles, harness and horse-shoeing,		323,082 30
Repairs of buildings,		72,164 85
Renewal of horses,		143,904 46
Wages and salaries of president, treasurer, superintendent and their clerks,		77,568 43
Wages and salaries of all other persons employed in operating the road,		2,188,440 18
Provender,		490,883 39
Taxes, State and local,		222,377 80
Rent and tolls paid other companies for use of their roads:		12,465 46
Somerville Horse Railroad Company,	$11,950 03	
Lynn & Boston Railroad Company,	401 64	
East Middlesex Street Railway Company,	113 79	
Insurance,		35,517 25
Damages for injuries to persons and property,		158,735 60
Office expenses, and all other expenses not included above,		458,175 07
TOTAL EXPENSES OF OPERATING,		$4,468,368 75

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,		$1,311,713 82
Interest accrued during the year,		244,503 46
Dividends declared: 8 per cent. preferred,	$512,000 00	737,000 00
Dividends declared: 10 per cent. common,	225,000 00	
Balance for the year, or surplus,		330,210 36
Surplus at commencement of year,	$337,837 47	
Deduct: entries made in Profit and Loss Account,	312,489 55	
Surplus at commencement of year, as changed by aforesaid entries,		25,347 92
TOTAL SURPLUS SEPT. 30, 1890,		$355,558 28

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	838
Box cars (electric motor),	164
Open cars,	856
Open cars (electric motor),	173
Horses,	6,927
Harnesses (pairs of),	2,341
Omnibuses,	20
Sleighs and sleds,	467

Other articles of equipment:

Complete electric overhead line equipment for 65.460 miles track; poles and underground wiring for 8.256 miles track: equipped with poles only for 11.087 miles track; feeder wire for 74.190 miles track; steam and electric plant at power station; tools and machinery in shops, etc.

Number of box cars fitted with electric motors,	164
Number of open cars fitted with electric motors,	173
Number of electric snow-sweepers,	9

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$5,309,173 09
Equipment,	4,584,986 06
Land and buildings,	5.796,547 53
Cash and cash assets,	1,837,103 05
TOTAL ASSETS,	$17,527,809 73

LIABILITIES.

Capital stock,	Common,	$3,491,150 00
	Preferred,	6,400,000 00
Funded debt,		4,034,442 12
Unfunded debt,		3,246,659 33
Surplus,		355,558 28
TOTAL LIABILITIES,		$17,527,809 73

Copy of Profit and Loss Account for the Year Ending Sept. 30, 1890.

DR.

To expenses,	$4,468,368 75
interest,	244,503 46
dividends, viz.:	
Jan. 1, 1890, preferred, 4 per cent.,	256,000 00
July 1, 1890, preferred, 4 per cent ,	256,000 00
Jan. 1, 1890, common, 5 per cent.,	100,000 00
July 1, 1890, common, 5 per cent ,	125,000 00
Illegally issued South Boston Railroad stock purchased for,	5,456 65
Claims prior to consolidation paid during the year,	24,754 14
Uncollectible accounts charged off,	80 86
Track reconstruction,	282,197 90
balance carried forward Sept. 30, 1890,	355,558 28
	$6,117,920 04

CR.

By balance Sept. 30, 1889,	$337,837 47
total income,	5,780,082 57
	$6,117,920 04

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,		217.72 miles.
Aggregate length of switches, sidings, etc.,		21.73 "
Total length of track, measured as single track,		239.45 "
Total length of track paved,		245.61 "
Weight of rail per yard, and description of rail: 50 to 100 pounds; now laying, 72½ pounds.		
Length of railway belonging to other companies, measured as single track, not including sidings, etc., operated by this company, or over which this company runs its cars, with the description of same,		16.977 miles.
Leased:		
Malden and Melrose,	6 690 miles.	
Somerville,	8 900 "	
Boston and Chelsea,	.670 mile.	
Trackage:		
East Middlesex,	.367 mile.	
Lynn and Boston,	.350 "	
Total length of railway, measured as single track, not including sidings, etc., operated by this company,		234 697 miles.

MILES RUN, ETC.

Total number of miles run during the year,	17,665,360
Total number of passengers carried in the cars,	114,853,081
Total number of round trips for the year,	2,344,570
Number of persons regularly employed by company,	4,148
Rates of fare,	5, 8, and 10 cts.

LIST OF ACCIDENTS.

	From Causes beyond their own Control.		From their own Misconduct or Carelessness.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers,	-	63	3	81	3	144
Employees,	1	19	1	6	2	25
Others,	6	53	4	17	10	70

STATEMENT OF EACH ACCIDENT.

Oct. 3, 1889. — Employee had his leg broken at stable.

October 5. — Man fell getting off car.

October 10. — Boy run over by car.

October 12. — Man thrown from a wagon which had been struck by a car.

October 15. — Man had his fingers jammed by a car and coach colliding.

October 16. — Girl struck and knocked down by a car.

October 21. — Man knocked down and run over by a car.

October 23. — Man struck by a car and knocked down and run over.

October 23. — Man fell from car.

October 25. — Employee injured while performing his work.

October 25. — Man fell from a car.

October 26. — Man fell while leaving a car.

October 28. — Passenger injured by collision of cars.

October 31. — Woman injured by car.

November 1. — Man thrown from a wagon which had been struck by a car.

November 2. — Man fell down while leaving car.

November 5. — Man caught between car and team.

November 5. — Man run over by car.

November 8. — Tow horse stepped on a tow boy's foot.

November 9. — Man thrown from a wagon which had been struck by a car.

November 12. — Man injured by being struck by a car off the track.

November 15. — Man thrown down while attempting to leave a car in motion.

November 16. — Man fell leaving a car in motion.

November 17. — People thrown from a carriage, the horse attached to it having become frightened at a car.

November 18. — Boy run over by a car.

November 19. — Woman fell getting on car.

November 21. — Man thrown down while attempting to leave a car.

November 22. — Man struck and knocked down by a car.

November 23. — Passenger thrown down in car.

November 24. — Man knocked down and run over by car.

November 25. — Employee injured at car shop.

November 28. — Employee at stable struck by a bale of hay.

November 30. — Person injured by car striking a carriage.

December 3. — Man fell getting off car.

December 3. — Man thrown while attempting to get upon car.

December 4. — Employee injured by being struck by an electric pole.

December 5. — Passenger injured by car and team colliding.

December 6. — Man fell while trying to get upon a car.

December 6. — Man knocked down and run over by a car.
December 8. — Man thrown down while alighting from a car.
December 9. — Man fell from a car in motion.
December 10. — Boy had his hand burned by an electric wire.
December 11. — Man struck and knocked down by a car.
December 13. — Man fell getting off car.
December 14. — Woman fell getting off a car.
December 17. — Man injured by a car striking his wagon.
December 18. — Boy knocked down by a car.
December 20. — Employee jammed between two cars.
December 21. — Woman fell getting off car.
December 24. — Man thrown from a wagon which had been struck by a car.
December 24. — Girl fell getting upon a car.
December 27. — Boy run over by a car.
December 27. — Man thrown from a wagon which was struck by a car.
December 30. — Man thrown down while attempting to get upon a car.
December 31. — Men fell from a car in motion.
Jan. 1, 1890. — Man dragged while attempting to get upon a car.
January 4. — Driver thrown from his car and run over.
January 6. — Man thrown from a wagon which had been struck by a car.
January 11. — Man thrown from a wagon which had been struck by a car.
January 15. — Man thrown down getting off car
January 16. — Man fell while attempting to leave a car.
January 19. — Woman slipped and fell while attempting to get off car.
January 20. — Man thrown down while attempting to get upon a car.
January 22. — Woman thrown down while getting off a car.
January 25. — Woman injured by the collision of cars.
January 26. — Passengers injured by car leaving track.
January 29. — Man thrown from a carriage which had collided with a car.
February 1. — Man knocked down and run over by a car.
February 2. — Boy knocked down and run over by a car.
February 4. — Employee kicked by a horse.
February 6. — Man fell from a moving car.
February 7. — Man thrown from a wagon which had been struck by a car.
February 10. — Employee injured while shoeing a horse.
February 11. — Passenger injured by being struck by a brake handle.
February 12. — Man jumped off a car and fell.
February 13. — Man thrown from a wagon which had collided with a car.
February 13. — Man thrown down getting off a car.
February 15. — Little girl run over by a car.
February 17. — A horse became frightened at a pile driver, backed into a car and his rider was run over.
February 18. — Man slipped and fell as he was leaving car.
February 20. — Woman knocked down by horses attached to a car.
February 22. — Man fell under car and was run over.
February 25. — Passenger injured by a car and a wagon colliding.
February 27. — Woman thrown down while getting upon a car.
February 28. — Man thrown from a wagon struck by a car.
March 1. — Passenger injured by car leaving the track.
March 2. — Man fell getting upon a car.
March 4. — Employee injured by collision of cars.
March 6. — Man thrown down while leaving a car.

March 11. — Man thrown from a wagon which had been struck by a car.
March 12. — Woman thrown from a carriage which had collided with a car.
March 15. — Man thrown down getting off car.
March 16. — Employee jammed against a stall by a horse.
March 17. — Man thrown from a wagon and injured.
March 17. — Man fell getting on car.
March 19. — Man fell while leaving a car.
March 21. — Woman thrown down while attempting to leave a car.
March 22. — Man thrown from a wagon which collided with a car.
March 25. — Man struck and knocked down by a car.
March 26. — Man thrown down getting on car.
March 27. — Woman thrown down while getting off car.
March 28. — Man thrown from a team which had been struck by a car.
March 30. — Man fell getting off car.
March 31. — Employee injured his hand on car.
April 2. — Woman had fingers jammed on car.
April 2. — Man thrown down getting off car.
April 3. — Woman fell while alighting from car.
April 5. — Woman thrown down while attempting to get upon a car.
April 7. — Passenger injured by a collision of cars.
April 11. — Boy knocked down and run over by car.
April 15. — Child run over by a wagon.
April 16. — Man thrown from a wagon which collided with a car.
April 19. — Man thrown down getting on car.
April 21. — Woman thrown down while getting off car.
April 22. — Woman slipped and fell getting on car.
April 23. — Man fell getting off car.
April 23. — Man struck by a car and run over.
April 25. — Man fell off car.
April 26 — Man fell getting on car.
April 27. — Woman slipped and fell getting on car.
April 28. — Man jumped from a car and fell.
May 1. — Man run over by a car.
May 1. — Driver injured by collision of cars.
May 3. — Woman fell while alighting from a car.
May 6. — Passenger injured by a collision of cars.
May 6. — Person injured by collision of car and wagon.
May 7. — Man fell getting on car.
May 10. — Man run over by car.
May 10. — Man injured by the collision of a car and team.
May 13. — Passenger had his hand injured on car.
May 13. — Passenger injured by collision of cars.
May 14. — Man injured by collision of car and wagon.
May 14. — Woman fell getting off car.
May 15. — Man knocked down by car.
May 16. — Man injured by car and wagon colliding.
May 17. — Man knocked down by a car.
May 18. — Man knocked down by a car.
May 18. — Boy jumped from one car and was run over by another.
May 20. — Man struck and knocked down by a car.
May 22. — Man injured by a car and wagon colliding.
May 23. — Man injured by a wagon and car colliding.

May 26. — Woman fell attempting to get on a car.
May 28. — Man injured by a wagon and car colliding.
May 29. — Man fell while attempting to alight from a car.
May 30. — Passenger injured by collision of cars.
May 31. — Woman fell getting off car.
June 1. — Woman injured getting off car.
June 2. — Man fell while attempting to alight from a car in motion.
June 3. — Man thrown down getting off car.
June 3. — Boy knocked down and run over by car.
June 4. — Passengers injured by the collision of cars.
June 5. — Man thrown down getting off car.
June 7. — Man injured by car and wagon colliding.
June 8. — Man injured by car and carriage colliding.
June 10. — Man slipped and fell getting on car.
June 11. — Conductor injured by car and wagon colliding.
June 12. — Passengers injured by derrick falling on car.
June 13. — Woman fell leaving car.
June 14. — Man fell getting off car.
June 14. — Woman injured by car and carriage colliding.
June 15. — Passenger struck by car.
June 16. — Woman thrown down while getting off car.
June 17. — Passenger injured by car and wagon colliding.
June 18. — Man thrown down getting off car.
June 20. — Man injured by car and carriage colliding.
June 21. — Man fell getting upon a car.
June 22. — Woman fell leaving a car.
June 22. — Employee injured his hand at car stable.
June 24. — Woman fell leaving car.
June 25. — Passengers injured by the collision of cars.
June 26. — Man injured by the collision of a car and carriage.
June 26. — Woman fell while leaving a car.
June 27. — Man fell while attempting to leave a car.
June 28. — Woman fell leaving a car.
June 30. — Woman slipped and fell while leaving a car.
July 1. — Woman had her hand injured on car.
July 1. — Man injured by wagon and car colliding.
July 2. — Passenger struck by brake handle.
July 2. — Man injured by a car and wagon colliding.
July 4. — Man knocked down by car.
July 4. — Woman fell leaving car.
July 6. — Woman fell getting upon a car.
July 7. — Man jammed between a team and a car.
July 8. — Man thrown down while attempting to get upon a car.
July 9. — Passenger injured by the collision of two cars.
July 12. — Man run over by a car.
July 13. — Employee injured by collision of cars.
July 14. — Woman fell getting on car.
July 15. — Man injured by a car and wagon colliding.
July 16. — Woman fell leaving car.
July 17. — Passenger injured by collision of cars.
July 18. — Woman fell leaving car.
July 19. — Passenger injured by a tow horse.

July 21. — Passenger injured by a car and wagon colliding.
July 22. — Passenger injured by two cars colliding.
July 23. — Man fell while leaving car in motion.
July 26. — Passenger injured by collision of cars.
July 27. — Man fell leaving car.
July 28. — Passengers injured by a car and wagon colliding.
July 29. — Man fell down while attempting to get upon a car.
July 30. — Woman thrown down leaving car.
July 31. — Employee injured by an obstruction in the street.
August 3. — Employee injured getting on car.
August 4. — Man fell leaving a car.
August 5. — Passengers injured by collision of cars.
August 6. — Man knocked down and run over by car.
August 6. — Employee kicked by a horse.
August 7. — Boy knocked down and run over by car.
August 10. — Boy run over by car.
August 10. — Woman jammed between two cars.
August 12. — Man struck and knocked down by car.
August 13. — Man injured by collision of car and wagon.
August 14. — Woman fell leaving car.
August 16. — Woman thrown down while leaving car.
August 17. — Man struck by a car after leaving car.
August 17. — Man fell while leaving a car in motion.
August 18. — Men thrown from a wagon which collided with a car.
August 19. — Employee injured at car stable.
August 21. — Woman became frightened and jumped from car.
August 23. — Man dragged while attempting to get upon a car.
August 24. — Man fell getting off car.
August 25. — Boy knocked down and run over by car.
August 26. — Employee kicked by a horse.
August 27. — Man thrown down leaving a car.
August 27. — Passengers injured by a steam roller backing into car.
August 28. — Man knocked down and run over by car.
August 29. — Employee injured by trolley rope.
August 30. — Woman fell leaving car.
August 31. — Passenger injured by a passing car.
September 2. — Man injured by car and team colliding.
September 3. — Man injured by car and team colliding.
September 4. — Woman thrown down leaving car.
September 5. — Man jumped from moving car and fell.
September 6. — Employee jammed between two cars.
September 6. — Man thrown from a wagon which collided with a car.
September 6. — Passengers in car injured.
September 7. — People thrown from a buggy which collided with a car.
September 9. — Man injured by a wagon and car colliding.
September 11. — Man injured by a collision of car and wagon.
September 12. — Woman fell getting on car.
September 13. — Man injured getting on car.
September 13. — Man fell leaving a car.
September 14. — Employee injured between cars.
September 15. — Man thrown down getting on car.
September 18. — Man fell leaving car.

September 20. — Man fell leaving car.
September 21. — Woman fell leaving car.
September 22. — Man struck and knocked down by car.
September 24. — Passenger had his hand jammed.
September 25. — Man fell getting on car.
September 26. — Employee kicked by a horse.
September 27. — Woman struck and knocked down by a car.
September 29. — Man jumped off moving car and fell.
September 30. — Man fell from car.

How many miles of track, taken as single track, did this company operate by electricity on the thirtieth day of September, 1890? Sixty-five and four hundred and sixty-one one-thousandths miles.

Also state whether upon these miles of track the cars were operated solely by electricity, or whether the rails were used partly by the electric cars and partly by the horse-cars. Used by both horse cars and electric cars.

Name of system, if overhead wires are used, and whether single or double trolley system is used. Single trolley system of Thomson-Houston Electric Company.

Number of miles of track for electric railway under construction Sept. 30, 1890. Some track being reconstructed with girder rail for electric operation; no electric overhead line under construction.

Average speed of the electric cars operated by your company, where not impeded by horse cars. Twelve miles per hour.

Proper Address of the Company.

WEST END STREET RAILWAY COMPANY,
81 Milk Street, Boston, Mass.

Name and Residence of Officers.

Henry M. Whitney, *President*, Brookline, Mass. Frank H. Monks, *General Manager*, Brookline, Mass. Joseph H. Goodspeed, *Treasurer*, Boston, Mass. Prentiss Cummings, *Clerk of Corporation*, Brookline, Mass.

Name and Residence of Directors last elected.

Henry M. Whitney, Brookline, Mass. Nelson Bartlett, Boston, Mass. Elisha S. Converse, Malden, Mass. G. T. W. Braman, Cohasset, Mass. Isaac T. Burr, Newton, Mass. Joseph S. Fay, Jr, Falmouth, Mass. Eustace C. Fitz, Boston, Mass. Charles O. Foster, Brookline, Mass. Jonas H. French, Gloucester, Mass. Henry D. Hyde, Boston, Mass. E. D. Jordan, Boston, Mass. Asa P. Potter, Cohasset, Mass. Edmund Reardon, Cambridge, Mass. Samuel Little, Boston, Mass. Dexter N. Richards, Brookline, Mass.

HENRY M. WHITNEY,
EUSTACE C. FITZ,
CHARLES O. FOSTER,
ASA P. POTTER,
DEXTER N. RICHARDS,
EDMUND REARDON,
NELSON BARTLETT,
E. S. CONVERSE,
G. T. W. BRAMAN,
SAMUEL LITTLE,
Directors.

JOSEPH H. GOODSPEED,
Treasurer.

FRANK H. MONKS,
General Manager.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS. BOSTON, Nov. 11, 1890. Then personally appeared Henry M. Whitney, Eustace C. Fitz, Charles O. Foster, Asa P. Potter, Dexter N. Richards, Edmund Reardon, Nelson Bartlett, E. S. Converse, G. T. W. Braman, Samuel Little, Joseph H. Goodspeed and Frank H. Monks, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

PRENTISS CUMMINGS,
Justice of the Peace.

REPORT

OF THE

WINNISIMMET STREET RAILWAY COMPANY,

For the Year ending Sept. 30, 1890.

[This road is leased to and operated by the Lynn & Boston Railroad Company.]

CAPITAL STOCK AND DEBT.

Capital Stock.		
Capital stock authorized by charter,	$75,000 00	
Capital stock authorized by votes of company,	50,000 00	
Capital stock paid (par value of shares, $50),		$50,000 00
Number of stockholders,	41	
Debt.		
Unfunded debt, as follows,		$121 50
Unpaid dividends,	$121 50	
Total Gross Debt,		$121 50
Amount of cash assets, viz.:		244 85
Cash,	$244 85	
Permanent Investments.		
Railway.		
Total Cost of Construction,		$50,000 00
Total Amount of Permanent Investments,		$50,000 00
Cash assets,		244 85
Total Property and Assets of Company,		$50,244 85
Revenue for the Year.		
Received from other railways as tolls or rent,		$3,000 00
Lynn & Boston Railroad Company,	$3,000 00	
Total Income from All Sources,		$3,000 00
Net Income, Dividends, etc.		
Total Net Income above Operating Expenses,		$3,000 00
Dividends declared (6 per cent.) for the year,		3,000 00
Surplus at commencement of year,		123 35
Total Surplus Sept. 30, 1890,		$123 35

General Balance Sheet Sept. 30, 1890.

Assets.	
Construction,	$50,000 00
Cash and cash assets,	244 85
Total Assets,	$50,244 85

LIABILITIES.	
Capital stock,	$50,000 00
Unfunded debt,	121 50
Surplus,	123 35
TOTAL LIABILITIES,	$50,244 85

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.	
To dividends,	$3 000 00
balance carried forward Sept. 30, 1890,	123 35
	$3,123 35

CR.	
By balance Sept. 30, 1889,	$123 35
total income,	3,000 00
	$3,123 35

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	1.8836 miles.
Aggregate length of switches, sidings, etc.,	.1317 mile.
Total length of track, measured as single track,	2.0153 miles.
Total length of track paved: All paved.	
Weight of rail per yard, and description of rail: 48 pounds street rail.	

PROPER ADDRESS OF THE COMPANY.

WINNISIMMET RAILROAD COMPANY,
13 TREMONT ROW (Room 3), BOSTON, MASS.

NAME AND RESIDENCE OF OFFICERS.

Thomas P. Proctor, *President*, Boston, Mass. E. Francis Oliver, *Treasurer and Clerk of Corporation*, Boston, Mass.

NAME AND RESIDENCE OF DIRECTORS LAST ELECTED.

Thomas P. Proctor, Boston, Mass. David H. Coolidge, Boston, Mass. Edward R. Cogswell, Cambridge, Mass. Edward Russell, Brookline, Mass. E. Francis Oliver, Boston, Mass.

THOS. P. PROCTOR,
DAVID H. COOLIDGE,
E. FRANCIS OLIVER,
Directors.
E. FRANCIS OLIVER,
Treasurer.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. Nov. 5, 1890. Then personally appeared the above-named Thomas P. Proctor, David H. Coolidge and E. Francis Oliver, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief. Before me,

EUGENE TAPPAN,
Justice of the Peace.

REPORT

OF THE

WORCESTER CONSOLIDATED STREET RAILWAY COMPANY,

FOR THE YEAR ENDING SEPT. 30, 1890.

CAPITAL STOCK AND DEBT.		
Capital Stock.		
Capital stock authorized by charter,	$350,000 00	
Capital stock authorized by votes of company,	350,000 00	
Capital stock paid (par value of shares, $100),		$350,000 00
Number of stockholders,	46	
Debt.		
Funded debt, as follows:		$150,000 00
Bonds due, rate of interest 5 per cent.,	$150,000 00	
Unfunded debt as follows,		141,606 83
Notes payable,	$123,000 00	
Accounts,	18,606 83	
TOTAL GROSS DEBT,		$291,606 83
Amount of cash assets, viz.:		16,742 70
Cash,	$13,277 40	
Supplies,	1,847 08	
Debit balances,	1,618 22	
NET DEBT,		$274,864 13
Permanent Investments.		
Railway.		
Grading and paving, and track, including timber, rails, etc., and laying,	$367,689 71	
Engineering, agencies, salaries and other expenses during construction,	5,011 38	
TOTAL COST OF CONSTRUCTION,		$372,701 09
Equipment.		
Horses,		$57,246 00
Cars,		53,754 44
Other articles of equipment,		10,000 00
TOTAL COST OF EQUIPMENT,		$121,000 44
Land and Buildings.		
Land owned by company needed in operating road,		$88,303 11
Buildings owned by company needed in operating road,		56,068 52
TOTAL COST OF LAND AND BUILDINGS,		$144,371 63

TOTAL AMOUNT OF PERMANENT INVESTMENTS,		$638,073 16
Cash assets,		16,742 70
TOTAL PROPERTY AND ASSETS OF COMPANY,		$654,815 86

PROPERTY ACCOUNTS: CHARGES AND CREDITS DURING THE YEAR.

Extension of tracks (number of feet, 15,518),		$41,146 38
New cars (number, 2),		1,900 00
Other equipment,		1,508 30
Land and buildings,		9,168 25
TOTAL ADDITION TO PROPERTY,		$53,722 93
Property sold or reduced in valuation on the books, viz.,		18,718 67
Paving and old rails sold, $505.15; and construction account reduced,	$5,677 75	
Cars reduced in valuation,	10,000 00	
Other equipment,	3,040 92	
NET ADDITION TO PROPERTY FOR THE YEAR,		$35,004 26

REVENUE FOR THE YEAR.

Received from passengers on railways operated by this company,		$232,474 66
Received from sales of manure,		1,751 48
Income from other sources,		1,172 95
Advertising in cars,	$1,172 95	
TOTAL INCOME FROM ALL SOURCES,		$235,399 09

EXPENSES OF OPERATING FOR THE YEAR.

Repairs of road-bed and track,	$5,890 04
Repairs of cars and other vehicles, harness and horse-shoeing,	18,482 57
Repairs of buildings,	2,885 10
Renewal of horses,	11,256 25
Wages and salaries of president, treasurer, superintendent and their clerks,	9,151 00
Wages and salaries of all other persons employed in operating the road,	75,462 60
Provender,	34,687 11
Taxes, State and local,	7,121 96
Insurance,	1,519 38
Damages for injuries to persons and property,	825 00
Office expenses, and all other expenses not included above,	11,100 63
TOTAL EXPENSES OF OPERATING,	$178,381 64

NET INCOME, DIVIDENDS, ETC.

TOTAL NET INCOME ABOVE OPERATING EXPENSES,		$57,017 45
Interest accrued during the year,		12,553 93
Dividends declared (7½ per cent. for the year),		26,250 00
Balance for the year, or surplus,		18,213 52
Surplus at commencement of year,	$13,209 03	
Deduct: property reduced in value,	18,213 52	
Deficit at commencement of year, as changed by aforesaid entries,		5,004 49
TOTAL SURPLUS SEPT. 30, 1890,		$13,209 03

INVENTORY OF EQUIPMENT SEPT. 30, 1890.

Box cars,	39
Open cars,	34
Horses,	406

Harnesses (pairs of),	72
Sleighs,	7

Other articles of equipment:

Two wagons, 2 buggies, 2 sulkies, 1 phæton, 1 cart, 1 tip-cart, 6 snow-ploughs, 2 horse-powers, 1 water-meter, 1 steam boiler (heater), 1 elevator, 4 hay-cutters.

General Balance Sheet Sept. 30, 1890.

ASSETS.

Construction,	$372,701 09
Equipment,	121,000 44
Land and buildings,	144,371 63
Cash and cash assets,	16,742 70
TOTAL ASSETS,	$654,815 86

LIABILITIES.

Capital stock,	$350,000 00
Funded debt,	150,000 00
Unfunded debt,	141,606 83
Surplus,	13,209 03
TOTAL LIABILITIES,	$654,815 86

Copy of Profit and Loss Account for the Year ending Sept. 30, 1890.

DR.

To expenses,	$178,381 64
interest,	12,553 93
dividends,	26,250 00
depreciation,	18,213 52
balance carried forward Sept. 30, 1890,	13,209 03
	$248,608 12

CR.

By balance Sept. 30, 1889,	$13,209 03
total income,	235,399 09
	$248,608 12

DESCRIPTION OF RAILWAY.

Length of railway owned by company, measured as a single track, exclusive of sidings,	19.210 miles.
Aggregate length of switches, sidings, etc.,	1.196 mile.
Total length of track, measured as single track,	20 406 miles.
Total length of track paved,	20.406 miles.

Weight of rail per yard, and description of rail: Most all steel, 35 and 40 pounds.

Description of the several lines or routes operated by this company:

Adams Square to New Worcester; Lincoln Square to Stearns Square; Lincoln Square to Quinsigamond; Lincoln Square to Union Station; Lincoln Square to Grafton Street; Union Station to New Worcester via Chandler and Park Avenue; Park Avenue to Union Station; Polytechnic Institute to Chadwick Square; New Worcester to Union Station; Perkins Street to New Worcester.

Total length of railway, measured as single track, not including sidings, etc., operated by this company, . . .	19.210 miles.
Miles Run, etc.	
Total number of miles run during the year, ...	706,905
Total number of passengers carried in the cars, . . .	4,851,574
Total number of round trips for the year, ...	141,448
Number of persons regularly employed by company, . .	175
Rates of fare, ...	5 cents.

List of Accidents.

	From Causes beyond their own Control.		From their own Misconduct or Carelessness.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers, ...	-	-	-	2	-	2
Employees, ...	-	-	-	-	-	-
Others, ...	-	-	-	-	-	-

Statement of Each Accident.

Newsboy jumped off car and fell under car coming in the opposite direction, and badly injured.

Man fell off car and hurt his knee.

Proper Address of the Company.

WORCESTER CONSOLIDATED STREET RAILWAY COMPANY,
Worcester, Mass.

Name and Residence of Officers.

Chas. B. Pratt, *President*, Worcester, Mass. H. S. Seeley, *Treasurer and Clerk of Corporation*, Worcester, Mass.

Name and Residence of Directors last elected.

Charles B. Pratt, Worcester, Mass. George H. Seeley, New York City, N. Y. Nathan Seeley, New York City, N. Y. Harry Seeley, Worcester, Mass. Thomas M. Rogers, Worcester, Mass. N. S. Liscomb, Worcester, Mass. Geo. McAleer, Worcester, Mass.

CHAS. B. PRATT,
GEO. McALEER,
THOS. M. ROGERS,
Directors.

COMMONWEALTH OF MASSACHUSETTS.

WORCESTER, ss. Nov. 5, 1890. Then personally appeared Chas. B. Pratt, Geo. McAleer, Thos. M. Rogers, and severally made oath to the truth of the foregoing statement by them subscribed, according to their best knowledge and belief.

R. JAS. TATMAN,
Justice of the Peace.

LEASES.

LEASES.

LEASE

BETWEEN THE PROVIDENCE & WORCESTER RAILROAD COMPANY

AND THE

NEW YORK, PROVIDENCE & BOSTON RAILROAD COMPANY.

This Indenture made the First day of May, in the year of our Lord Eighteen Hundred and Eighty-eight, between the Providence & Worcester Railroad Company, a corporation existing under and by virtue of the laws of the State of Rhode Island and the Commonwealth of Massachusetts, of the first part, and hereinafter called the lessor, and the New York, Providence & Boston Railroad Company, a corporation existing under and by virtue of the laws of the States of Rhode Island and Connecticut, of the second part, and hereinafter called the lessee,

Witnesseth: That the said parties, each for itself, its successors and assigns, and in consideration of the grants, covenants, and engagements herein made by the other, do hereby grant, covenant, and agree, each to and with the other, its successors and assigns, as follows, that is to say: —

I.

The lessor doth grant, demise, and lease unto the lessee, its successors and assigns, the lessor's railroad and railroad property, including therein its railroad and branches, rights of way and location thereof, lands, docks, wharves, flats and water rights, branches, tracks, side tracks, gravel-pits, road-beds, superstructure, station houses, depot-grounds, depots, viaducts, bridges, piers, shops, buildings, fixtures, engines, cars, rolling stock, machinery, tools, furniture, telegraph apparatus, equipment, materials, and supplies, East Providence Pier, coal pockets, stationary engines, tools, offices, sheds, hoisting apparatus, and also including therein one undivided half part of the railroad, tracks, station houses, and superstructure, and all other property owned by the lessor and the Boston & Providence Railroad Corporation, and all rights, franchises, easements, privileges, and appurtenances thereto belonging, together with the right to demand and receive all tolls, rents, revenue income, and profits of the demised premises; including also therein all the right, title and interest of the lessor in and to all railroads operated by it under lease or otherwise so far as the same are assignable or transferable by the lessor without violation of law or of agreement, but not otherwise; and in and to all contracts of the lessor with other railroad companies, corporations, or persons, and all income and other benefits and advantages to be derived therefrom; hereby assigning and transferring unto the lessee, subject to all legal obligations and encumbrances thereon, all the lessor's railroad, railroad property, and franchises of every description, except as above stated.

To Have and to Hold all and singular said demised premises to the lessee, its successors and assigns, for and during the term of ninety-nine years from and after the first day of May, A.D. 1888, the said lessor reserving rent as hereinafter stipulated, and the said lessee keeping and performing the covenants herein made on its part to be kept and performed, and yielding and paying rent for the said demised premises to the amount and in the manner following, that is to say: —

1. The lessee shall pay all operating expenses of the lessor, and of all railroads which shall be operated under and by virtue of this instrument, including therein as part thereof all repairs and renewals; all expenditures arising out of any contract, obli-

gation, business, negligence, malfeasance or misfeasance, or however otherwise arising, liability for which shall exist or be created on and after the date hereof, in any way connected with the use or operation of said demised premises, or of railroads operated by the lessee or the lessor, as herein provided, and including damages to person or property, insurance of the lessor's property against loss or damage by fire, all taxes and assessments of every description, federal, State, and municipal, assessed and made against the lessor upon its property, business, franchises, or capital stock, payable on or after the date hereof; all expenses consequent upon or incidental to the renewal or refunding of the lessor's indebtedness; all expenditures from time to time required to be made in order to keep said demised premises in the condition and up to the standard of a first-class railroad; all expenses incident to the improvement of the terminal or intermediate stations of said railroad; and the organization expenses of the lessor, for which the lessees shall pay to the lessor at the end of each successive period of three months during the term of this lease the sum of twenty-five hundred dollars ($2,500).

2. The lessee shall pay, as the same become due, the rentals of all railroads which shall be operated under and by virtue of this lease during the continuance thereof, and the interest on the indebtedness of the lessor now outstanding, and on such indebtedness as may be created or incurred for the purposes hereinafter provided.

3. The lessee shall pay as a yearly rent the sum of three hundred thousand dollars, ($300,000), and also a sum of money equal to ten per centum of additional capital stock, which the lessor is authorized to issue to the amount of five hundred thousand dollars ($500,000), whenever the same shall have been issued by the lessor to its stockholders at par, and the proceeds thereof have been paid to the lessee, less the sum of seventy thousand dollars ($70,000), which shall be retained by the lessor in repayment of that amount recently expended for the purchase of land and the permanent improvement of its roads and property; also, a sum of money equal to ten per centum (or such smaller percentage as may be hereafter agreed upon by the parties hereto) of such further additional capital stock as may be issued under and by virtue of a provision herein made therefor, — all such rents to be payable quarterly on the last days of June, September, December, and March in each year during said term, and the first payment thereof, to be made on the last day of June, A.D. 1888, shall be of the sum of fifty thousand dollars ($50,000) only, being two months' rent from the date hereof accruing under the terms of this lease.

II.

The lessor covenants that, if it be found impracticable to at once deliver possession of said demised premises, or any portion thereof, by reason of any agreement to the contrary, or other reason, the lessor will use all reasonable efforts to deliver, and will deliver, possession thereof to the lessee as soon as practicable, and that the lessor shall meanwhile continue in possession of said roads and property and shall continue to operate said railroads and to receive the earnings thereof, but shall, whenever possession is delivered as aforesaid, transfer and pay over all such earnings to the lessee, being first reimbursed for all expenditures in operating the same and in payment of taxes, interest on its indebtedness and all other fixed charges, and all dividends of ten per cent. per annum paid on the capital stock of the lessor; and the lessee shall indemnify and hold harmless the lessor from and against all costs, claims, and liabilities arising out of its possession of said demised premises and its operation of said railroads as aforesaid.

III.

The lessee shall and hereby does assume all contracts of the lessor for equipment, materials, and supplies, and all the lessor's other contracts maturing and liabilities incurred on and after the first day of May, A.D. 1888, to and with corporations or persons, expressed or implied (excepting the lessor's contracts with the holders of its indebtedness hereinafter specified), and shall assume and defend all suits against the lessor arising out of or in any way connected with the use of said demised premises or the operation of said railroads on and after the date hereof, during the continuance of this lease, and pay all judgments obtained thereon against the lessor or lessee, and all expenses incurred by the lessor in such suits. All earnings and income collected or accruing prior to the date hereof shall belong to the lessor, and so much thereof as may be collected or received by the lessee shall be forthwith paid over to the lessor; and all earnings and income accruing on and after this date and during the continuance of this lease shall belong to the lessee, and so much thereof as may be collected or received by the lessor shall be accounted for and paid over to the lessee.

The lessee shall expend all proceeds of additional stock received by it under the foregoing stipulations in making permanent improvements on the demised property.

IV.

The lessor covenants that its sole indebtedness at the date hereof consists of bonds to the amount of twelve hundred and fifty thousand dollars ($1,250,000), bearing interest at the rate of six per cent. per annum, payable semi-annually on the first days of April and October in each year, and secured by mortgage of the lessor's roads and property; that the lessor will at the lessee's option issue to the lessee additional bonds, secured by said mortgage to an amount not exceeding two hundred and fifty thousand dollars ($250,000), the entire proceeds of which bonds, if so issued, shall be applied and expended by the lessee in making improvements and betterments upon said demised premises; and that the lessor will at the maturity of said mortgage issue new bonds to an amount not exceeding one million five hundred thousand dollars ($1,500,000), and at the lessee's request execute a new mortgage to secure such bonds, and to make a like issue of bonds and a like mortgage at the maturity of the same, or of any bonds or mortgage made in renewal thereof, and for such terms of years, upon such rate of interest, and in such amounts, not exceeding the total indebtedness of the lessor as aforesaid, as the lessee shall request, but no such renewal mortgage shall be made a lien or encumbrance on any lands or property of the lessor not at the date thereof in actual use in operating said railroads. The lessee covenants that all bonds so issued shall be negotiated to the best advantage at its expense, and that all proceeds thereof shall be applied to the payment of the then outstanding indebtedness of the lessor.

V.

If at any time during the continuance of this lease the parties hereto, their successors or assigns, shall find it mutually advantageous to raise money for making permanent improvements and betterments upon said demised premises, the lessor shall, if legally authorized, issue additional capital stock, which shall be sold in the market for the highest attainable prices, and the entire proceeds of such sales shall be expended in such permanent improvements and betterments. If said parties fail to agree either as to the policy of making such improvements, or as to the amount of such stock to be issued therefor, then at the request of either party said questions shall be submitted to three arbitrators, one of whom shall be selected by each party and the third by the two so chosen, whose determination in writing, or that of any two of them agreeing after reasonable notice and hearing, shall be binding and conclusive on said parties as to either or both of said questions.

VI.

The lessor may at any time during the continuance of this lease sell and convey any and all lands then owned by it which for the time being shall not be in actual use, or not required, for railroad purposes, and the proceeds of any such sale or sales shall be applied to and expended in, the purchase of other lands then required for such purposes, or in making permanent improvements on said demised premises; and all lands so purchased shall thereafter constitute a part of the premises hereby demised.

VII.

The lessee covenants that it will not ask for or assent to legislation detrimental to said demised premises or to the interests of the lessor therein, or calculated to depreciate the value of said premises or to injuriously affect the business heretofore done on the lessor's railroads, and which is claimed by the lessor as properly and naturally belonging to a common carrier operating said roads, and that it will not, directly or indirectly, procure or aid in procuring any such legislation.

VIII.

The lessee shall at its own expense maintain and keep said demised premises and all the property and fixtures of every description which it shall receive or operate under this lease in as good order and condition as the same now are, so that there shall be no depreciation in the same or any part thereof, and so that the same shall be maintained and kept up to the requirements and standard of a first-class railroad; and, at the expiration or other sooner termination of this lease, shall return the same to the lessor, its successors or assigns, in the same good order and condition, and shall put the lessor in possession of its leased roads and property at said time operated by the lessee or by the lessor under this indenture. The lessee shall use and operate said demised roads and property in accordance with the charters of the lessor and the laws of the State of Rhode Island, of the Commonwealth of Massachusetts, and of the United States of America, so far as any of such laws shall be respectively applicable; shall furnish all cars, engines, rolling stock, and equipment of every description required from time to time during the continuance of this lease, in addition to like property hereby demised, for the due and effective operation of the railroads operated under and by virtue of this lease; shall observe and perform all the provisions of the lessor's contracts in relation to railroads and property now leased or operated by it; shall keep said demised premises reasonably insured, and shall apply the proceeds of any insurance to restoring or replacing property damaged or destroyed, or to making permanent improvements, not in the nature of ordinary repairs, upon said demised premises; shall apply the proceeds of rolling stock, equipment, and other personal property herein demised, which the lessee may deem advisable to sell, and which it is hereby authorized to sell in its discretion, so as to substitute therefor like property of equal value; shall replace buildings and structures on said demised premises taken down or removed, and which the lessee is hereby authorized to take down or remove in its discretion, with other buildings, structures or permanent improvements upon said demised premises, of equal value and equally convenient and useful to the lessor, should this lease be terminated; shall furnish the directors and treasurer of the lessor with free annual passes over all said demised railroads during the continuance of this lease; shall permit said demised premises to be from time to time inspected by said directors and by an inspector appointed by them as hereinafter provided, who shall report to the lessor the condition of said premises, and shall, for the purpose of such inspection, be furnished with free transportation over the railroads operated under this lease; shall make all returns required by law, and shall furnish the lessor with such abstracts of accounts as shall enable it to make all returns required of the lessor; shall not assign this lease nor underlet said demised premises or any part thereof, except such portion thereof as may not for the time being be required for railroad uses, without the written assent of the lessor first had and obtained; and shall cause all rolling stock hereby demised, and all rolling stock substituted therefor and added thereto by virtue of stipulations hereinbefore made, to be distinguished by appropriate names, figures, numbers, and letters; and, at the end of the term of this lease or at any sooner termination thereof from any cause whatever, shall surrender to the lessor, its successors or assigns, the real and personal estate now or hereafter demised as aforesaid, including all terminals, to be ascertained and determined according to the inventory hereinafter provided for, in the like good order and condition in which the same are at the date hereof, or when received by the lessee, or in which they may be put during said term, with all improvements thereon and additions thereto made under and by virtue of foregoing stipulations; the amount of materials and supplies to be surrendered or accounted for to the lessor, its successors or assigns, to be equivalent in value to the amount on hand at the date thereof, as shown by said inventory; and, in case the property demised as aforesaid, or the property substituted therefor or added thereto as aforesaid, or any portion thereof, be not returned in good order and condition as above stipulated, whether at the end of said term or other sooner termination of this lease, the same shall be then paid for by the lessee, its successors or assigns, at the appraisal made as hereinafter provided, and in gold coin of the United States of the present standard in weight and fineness of twenty dollar pieces of this date.

IX.

That the property herein demised and to be accounted for at the expiration or other sooner termination of this lease may be accurately determined, there shall be made as of the day of the date hereof, a full, complete, and particular inventory, description, and appraisal of all estate and property, real and personal, belonging to the lessor and herein demised to the lessee; and to this, from time to time, shall be added such other estate and property as shall come into the possession of the lessee, its successors or assigns, during the continuance of this lease and under the terms and conditions thereof. Such inventory, description, and appraisal, and the additions thereto from time to time, shall be made by two competent persons, one selected by each party; and, in case of their disagreement, they shall refer the matter in difference to some third person, whose decision thereon shall be final. Such inventory, description, and appraisal shall be made in duplicate, and an original furnished to each party hereto, and shall be evidence of the nature, condition, and value of the property demised at the date hereof and at the times of the additions thereto, in all cases in which any questions of such nature, condition, or value may arise. All materials and supplies on hand at the date hereof, which have been procured for use in maintenance of way on said demised premises, shall be taken and paid for by the lessee at the cost price thereof to the lessor, or, at the lessee's option, at the valuation thereof made by appraisers as aforesaid.

X.

The lessor shall maintain its existence and organization as a corporation, and to that end shall comply with all requisites and forms of law; shall do all acts and things and execute all legal instruments necessary and proper to put and secure the lessee in the full enjoyment of all the property, rights, franchises, and interests herein demised, and to carry into effect the true intent and meaning of this lease; and shall not increase its capital stock as now existing and issued, without the assent of the lessee, except as provided in this lease. The Board of Directors of the lessor shall appoint an Inspector, who shall from time to time, in his discretion and whenever instructed so to do by said directors, examine and report to said Board or to the lessor, the condition of said roads and of all said demised premises, and make recommendations of all such repairs, renewals, additions and improvements as he may deem necessary or judicious for keeping and maintaining said railroads and its equipment of every description in the condition and up to the requirements and standard of a first-class railroad in all respects, and, with the approval of said directors, or of the lessor, to notify the lessee to make such repairs, renewals, additions, and improvements; and the same shall thereupon be made by the lessee. The lessee shall have the right to employ such Inspector at its own expense in any capacity and for any service not interfering and not inconsistent with the proper discharge of his duty to the lessor as aforesaid.

XI

This lease is upon the condition that, if the lessee, its successors or assigns, shall at any time fail to make, as part of the rent herein reserved, the payments above stipulated to be made of the semi-annual interest on the lessor's indebtedness, or shall fail for thirty days to make any quarterly payment of rent as above stipulated, then, and in either such case, the lessor, its successors or assigns, may at once enter upon said demised premises or upon any part thereof as and for the whole, and expel the lessee, its successors or assigns, and determine the estate hereby granted, and shall thereupon become seized and possessed of said demised premises and of all estate and property then in the possession of the lessee or of the lessor under and by virtue of this indenture, and of every part thereof, in its original right, and as if this lease had never been made; and upon the further condition that, if the lessee, its successors or assigns, shall fail to keep and perform any other of the covenants, stipulations, and agreements above made on the part of the lessee to be kept and performed, and such failure shall continue for six months after written notice thereof from the directors of the lessor, the lessor shall have the like right to enter and expel the lessee, and revest in itself, its successors or assigns, its former estate in said demised premises, and all premises, estate, and property then in possession of the lessee or of the lessor, under this indenture, and every part thereof; *provided*, however, that any such entry by the lessor, its successors or assigns, for breach of condition, shall in no wise prejudice or impair any remedy to which it or they might otherwise be entitled for arrears of rent or for preceding breach of covenant, or any other rights secured by this lease in case of its termination before the end of the term thereof.

XII.

In case of any disagreement between the parties hereto, their successors or assigns, as to the true intent and meaning of this lease, or of any part thereof, or as to anything done under or by virtue of it, or growing out of it, or as to anything required hereby which either party shall have failed to do, the matter so in controversy shall be submitted in writting to three arbitrators, to be appointed in the manner hereinbefore provided. Said arbitrators shall hear the parties after reasonable notice to each of them, and, if either party fail to attend after such notice, may proceed *ex parte*. Their award in writing, or that of any two of them agreeing, being duly notified to the parties, shall be final and conclusive. If either party shall refuse or neglect to select an arbitrator or appraiser in any case herein provided for, after request so to do from the other party, the Supreme Court of Rhode Island may, on application of either party, after notice to both parties, make such selection and appointment of an arbitrator or appraiser for and in behalf of the party so refusing or neglecting to select such arbitrator or appraiser.

In testimony whereof, the said parties have caused their corporate names to be subscribed and their corporate seals to be affixed hereto by their respective officers duly authorized thereunto, the day and year first above written.

Executed in presence of:

[Seal] PROVIDENCE & WORCESTER RAILROAD COMPANY,
By Moses B. I. Goddard, *President.*
William A. Leete, *Treasurer.*

[Seal] NEW YORK, PROVIDENCE & BOSTON RAILROAD COMPANY,
Samuel D. Babcock, *President.*
George Macculloch Miller, *Vice-President.*

Executed in presence of Edwin Metcalf,
George H. Corey.

State of Rhode Island and Providence Plantations, Providence, ss. In the City of Providence the twenty-seventh day of May, A.D. 1889, personally appeared Moses B. I. Goddard, President of the Providence and Worcester Railroad Company, and William A. Leete, Treasurer of said Company, and acknowledged the foregoing instrument by them signed, to be their free act and deed in their said capacity respectively, and the free act and deed of said Company.

Before me, Edwin Metcalf,
Notary Public.

State of New York, City and County of New York, ss. On this twenty-eighth day of May, A.D. 1889, before me, George H. Corey, a Commissioner for the Commonwealth of Massachusetts and the State of Rhode Island, within and for the City, County and State of New York aforesaid, duly commissioned and acting as such, personally appeared Samuel D. Babcock, President, and George Macculloch Miller, Vice-President of the New York, Providence & Boston Railroad Company, signer and sealer of the foregoing instrument, and severally acknowledged the said instrument by them signed as such President and Vice-President respectively, to be the free and voluntary act and deed of said The New York, Providence & Boston Railroad Company.

In witness whereof I have hereunto set my hand and affixed my official seals, the day and year last aforesaid.

[Seal] George H. Corey,
Commissioner for Massachusetts and Rhode Island in New York.

Office No. 52 Wall St., N. Y.

LEASE

OF THE NORTHERN RAILROAD

TO THE

BOSTON & LOWELL RAILROAD CORPORATION

ASSIGNED TO THE

BOSTON & MAINE RAILROAD.

This Indenture, made the 30th day of December, A.D. 1889, between the Northern Railroad, a corporation existing under the laws of the State of New Hampshire, party of the first part, and the Boston & Lowell Railroad Corporation, a corporation existing under the laws of the Commonwealth of Massachusetts, and operating railroads within the State of New Hampshire, party of the second part, —

Witnesseth: That the party of the first part, in consideration of the rent, covenants and agreements hereinafter mentioned, to be paid, kept and performed by the party of the second part, doth hereby grant, lease and demise unto the party of the second part the following described property, to wit: — 1. The railroad of the party of the first part, extending from Concord in the State of New Hampshire, to White River Junction in the State of Vermont, and the branch thereof to Bristol in the State of New Hampshire, together with the lands on which said railroad and branch are located, or which are connected with or appertain to the uses of the party of the first part, and are its property, and all rights, easements, franchises and privileges appurtenant thereto, and all the turnouts, branch tracks, depot grounds, stations, superstructures and fixtures belonging thereto or connected or used therewith, and the lands on which the same are now situated, so far as the same are the property of the party of the first part, whether included in its location or not, and its cars and engines, and its shop and machinery therein; reserving, however, to the party of the first part convenient offices in that portion of the passenger station at Concord which it now occupies, and in that portion of any new passenger station which may be constructed at Concord in place of the existing station during said term.

2. All its shares of the capital stock of the Concord and Claremont, N. H., Railroad and of the Peterborough and Hillsborough Railroad, together with the right to vote upon the same and to receive to its own use any dividends thereon.

3. Its claim against the Concord and Claremont, N. H., Railroad on book account, amounting, according to the books of the party of the first part, with interest to Jan. 1, 1890, to four hundred and eleven thousand and eighty-three $\frac{76}{100}$ dollars, and its claim against the Peterborough and Hillsborough Railroad upon second mortgage bonds thereof, amounting at their face value, exclusive of interest, to sixty-five thousand dollars.

To have and to hold the same to the party of the second part for and during the term of ninety-nine (99) years, from and after the first day of January, in the year of our Lord one thousand eight hundred and ninety; the party of the second part yielding and paying unto the party of the first part the rent hereinafter mentioned, and keeping and performing all the covenants and agreements of the party of the second part hereinafter contained.

And in consideration of the foregoing the party of the second part for itself and its successors and assigns hereby covenants and agrees with the party of the first part as follows, viz.: —

First. It will pay to the party of the first part as rent in gold coin of the United States on the first days of January, April, July and October in each year, during the first seven and one half-years of said term, the sum of thirty-eight thousand three hundred and fifty-five dollars ($38,355), and during the remainder of said term the sum of forty-six thousand and twenty-six dollars ($46,026) on each of said days in each year, and will pay at the same rate for any portion of a quarter, all payments to be made at the office of the treasurer of the party of the first part, and the first payment to be made on the first day of April, A. D. 1890.

Second. It will pay all taxes, assessments and charges whatsoever that may be imposed upon or payable by said party of the first part on account of its property, franchise, capital stock or otherwise, during said term, and three-twelfths of any taxes, assessments or charges which may be so imposed or payable for the year commencing April 1, A.D. 1889.

Third. It will keep such accounts of the business of the road of the party of the first part, and will make such reports thereof as may be required at any time by law to be kept and made, and will in the name and for the benefit of the party of the first part do and perform all things which may be required by law to be done and performed by the party of the first part, which hereby constitutes the party of the second part its agent and attorney for that purpose.

Fourth. It will at all times provide the directors and officers of the party of the first part with free transportation over any railroad operated by the lessee or by any assignee of the lessee, and will ask for them from corporations whose railroads connect points on its own system the same free transportation that it asks for its own directors. It will also provide the stockholders of the party of the first part, with free transportation to and from annual and special meetings over all the aforesaid railroads.

Fifth. It assumes and will pay as a part of the consideration of this lease, the interest coupons upon the existing first mortgage bonds of the Concord and Claremont, N. H., Railroad, which bonds amount to five hundred thousand dollars ($500.000), and also the interest upon the existing first mortgage bonds of the Peterborough and Hillsborough Railroad, which bonds amount to one hundred thousand dollars ($100,000). At the maturity of said bonds or of any bonds given in exchange for or renewal of them, or to provide means to pay them, it will furnish to the party of the first part the money required to pay them.

Sixth. It will not make any mortgage or create any incumbrance upon its road and franchise without first securing, as a lien thereon, the payment of the rent and the performance of the obligations reserved and created to the party of the first part in this lease, and it will not lease or attempt to transfer the possession or control of the road and property hereby demised without the written approval of the directors of the party of the first part, except as hereinafter provided in Article Twelfth.

Seventh. It will indemnify and save the party of the first part harmless against all loss, cost, damage or liability caused by or arising out of the operation of its road by said party of the second part, or by reason of the neglect of the party of the first part or of the second part to operate said roads as required by law.

Eighth. It will, at its own cost and expense, maintain, preserve and keep the railroad, side-tracks, station-houses and all other buildings, appurtenances, turn-tables, fixtures, rolling stock and equipment of the party of the first part in as good order and condition as the same now are, so that there shall be no depreciation in the same or in said railroad, or its location, superstructure, buildings and permanent way at any time during said term, and will renew and keep said equipment and property good and in sufficient quantity and proper quality and condition to do the business upon its road at all times during the said term, and once a year, at the request of the party of the first part, it will furnish to it a complete and correct schedule and description of all the equipment and movable property of the party of the first part then in its possession or control, and deliver the same to any person appointed by the party of the first part, to examine its road or property, and will provide such person with transportation and suitable facilities to enable him to make such examination. And if on such examination, said road, its superstructure, equipment or property, shall be found to be depreciated, insufficient or unfit in quantity, quality, condition or value to meet all the requirements of this indenture, said party of the second part shall make good such depreciation, and forthwith expend upon said railroad or property an amount necessary to restore it to its former condition, and if it does not do so the party of the first part may make such expenditure at the expense of the party of the second part, which hereby agrees to pay the amount thereof on demand.

Ninth. It will during the term of this lease operate said demised railroad according to all requirements of law, fulfilling all the duties and obligations of the party of the first part in relation thereto in the same manner as if said demised road remained in the possession and control of the party of the first part, and protect and save harmless the party of the first part against all actions or claims for injury to persons or property during said term by reason of any want of repair of said road and property or appurtenances, or any casualties of any kind, or any want of care or skill in the management of the same, or by reason of any defects therein, and will comply in all respects with the requirements of law in the same manner as if it were the proprietor of the said railroad and property, and will not permit the party of the first part to be subjected to any payment, penalty or forfeiture for violation of law in any respect, and at the expiration or earlier termination of this lease it will return said demised road and property, with all equipment thereof, to the party of the first part, in as good order and condition as the same now are, without diminution or depreciation in any respect; provided, however, that in case any additions or improvements to said railroad or property shall have been made by the party of the second part, at that time, with the written consent of the party of the first part, the same shall be paid for by the party of the first part, at the value thereof, at the time this lease shall expire or be terminated.

Tenth. It will at all times during the term of this lease keep the buildings, bridges, equipment and other property of the party of the first part adequately insured against loss by fire, and will indemnify the party of the first part against, and will pay, all losses, liabilities or claims against it, growing out of damage by fire or steam from any locomotive engine on the road hereby demised.

Eleventh. It will not, except with the written consent of the directors of the party of the first part, sell or otherwise dispose of the stock of the Concord and Claremont, N.H., Railroad, or of the Peterborough and Hillsborough Railroad, or the second mortgage bonds and claims against said roads hereinbefore specified, nor enforce said claims by legal proceedings; and at the end or earlier termination of this lease, it will retransfer said stock and claims to the party of the first part, and will account to it for all moneys realized from such claims, without interest.

Twelfth. It will not assign this lease or underlet or part with the possession of the road and property hereby demised, or any part thereof, without the written consent of the directors of the party of the first part, except that by vote of its directors it will assign and convey all the property hereby leased to the Boston and Maine Railroad upon the execution and delivery by that corporation to the party of the first part hereto of a valid agreement to be jointly and severally liable to said party of the first part for the full performance of any and all of the covenants and agreements of the lessee in this lease.

Thirteenth. The shares of the capital stock of the Concord and Claremont, N.H., Railroad and of the Peterborough and Hillsborough Railroad owned by the party of the first part, and embraced within the terms of this lease, shall be held and used by the party of the second part for the purpose of maintaining the roads of said companies as practical extensions and branches of the road of the party of the first part hereby demised. The organizations of said corporations shall be preserved and all their duties to the public and the State performed, and no incumbrance shall be created or permitted upon said roads by the use of said shares, except that new mortgages thereon may be made to secure bonds which it is agreed may be issued for the purpose of paying the existing bonds mentioned in Article Fifth of this lease, at rates of interest not exceeding that borne by said existing bonds. Their capital stock shall not be increased without the written consent of the directors of the party of the first part, and at the end or earlier termination of this lease, said stocks shall be retransferred and delivered to the party of the first part in such manner as to return to it the same interest in the present roads and property of said Concord and Claremont, N.H., Railroad and Peterborough and Hillsborough Railroad, and in all improvements which may be made thereon, as they now represent in said roads and property. The party of the first part will from time to time execute and deliver all such necessary and proper transfers and proxies, as the party of the second part may request, to enable the party of the second part to vote on the shares of stock of the above-named railroad companies or to collect any dividends thereon, or to otherwise use the same according to the true intent and purpose of this lease.

Fourteenth. It will pay to the party of the first part, at the office of its treasurer, the sum of twelve hundred and fifty dollars in gold coin of the United States, quarterly, in each year during said term, to wit, on the first day of January, the first day of April, the first day of July, and the first day of October in each and every year, and at the same rate for any portion of a quarter, the first payment to be made on the first day of April, A.D. 1890, as and for the expense of preserving its organization, the party of the first part hereby agreeing that it will keep up and preserve its organization during said term

Fifteenth. The party of the second part will indemnify and protect the party of the first part against all claims which may be made against it by stockholders who may dissent from this lease, and it will pay the claims of any such dissenting stockholders and the expenses of the proceedings to ascertain the amount thereof; and any stock, interest or property right of a dissenting stockholder which may become the property of the party of the first part under such proceedings shall upon such payment by the party of the second part be transferred to it by the party of the first part to be held and disposed of by the party of the second part for its own use and benefit.

THIS LEASE IS MADE UPON CONDITION that in case of the breach of any of the covenants of the lessee herein contained, or in case the estate hereby created and vested in the lessee shall be taken from it by legal proceedings of any kind, or in case of default in any payment herein provided to be made by the party of the second part, for the period of sixty days after the same is due and payable, then the party of the first part, its successors or assigns, may enter upon and take full possession of the premises hereby demised, and all depots, shops, buildings, tracks, rolling stock or other property added thereto, and may remove said lessee and all persons claiming under it from said premises and thereby determine the estate hereby granted, using whatever force may be necessary for that purpose, and the party of the second part agrees that it will not in such event hinder, delay or prevent the entry of the party of the first part to recover the possession of said demised premises as of its former estate.

The party of the second part also agrees that the demised premises and all books and accounts kept by it relating to the operation thereof and the business, improvements, renewals and repairs thereof, shall at all reasonable times be open to the inspection and examination of the directors or officers of the party of the first part, or of such person or persons as may be appointed by them, from time to time, to examine the same. The party of the second part also agrees that all the covenants and agreements in this instrument contained, to pay taxes, assessments and charges upon the road and property of the party of the first part, to keep insurance upon said property and to keep accounts, make reports and perform all things required by law to be performed by the party of the first part, and to maintain and operate the road and property of the party of the first part, and to assume its contracts, and to indemnify said party against damage or expense, shall apply to and be binding upon the party of the second part in any control, maintenance and operation of it through control of their stock or otherwise, of the roads of the Concord and Claremont, N. H., Railroad and the Peterborough and Hillsborough Railroad, or either of them, in the same manner and to the same extent that they apply to and are binding upon the party of the second part in the control, management and operation of the road and property of the party of the first part.

The party of the second part also agrees that in case it shall fail to do and perform the matters and things herein agreed by it to be done and performed in payment of taxes, keeping accounts and making reports required by law, keeping insurance and maintaining and operating and managing the road and property hereby demised or otherwise the party of the first part may do and perform the same at the expense of the party of the second part without prejudice to any remedies the party of the first part may have to enforce the covenants and agreements of the party of the second part herein contained; and the party of the second part hereby assumes and will perform as its own, at its own expense, all existing contracts of the party of the first part for the transportation of persons or property.

The party of the first part, at the request of the party of the second part and upon being furnished by it with the requisite funds, will subscribe to and pay for such shares of the capital stock of the Franklin and Tilton Railroad as it may have authority to subscribe for, and will also upon the like request guarantee bonds of said Franklin and Tilton Railroad, and do all other acts and things in relation thereto for which it may have authority. After said subscription to said stock, the same shall be deemed to be property covered and demised by this lease, and all the provisions herein contained respecting the stock of the Concord and Claremont, N. H., Railroad and of the Peterborough and Hillsborough Railroad shall be deemed applicable to the stock of said Franklin and Tilton Railroad. The party of the second part will furnish the money to pay the bonds guaranteed as aforesaid at their maturity, or any bonds in renewal thereof, and will protect said party of the first part against said guaranty. And upon the expiration or earlier termination of this lease, the party of the second part will transfer and deliver to the party of the first part all its interest in the stock of said Franklin and Tilton Railroad and all its claim against it, and the party of the first part shall receive the same and pay the actual cost thereof without interest to the party of the second part.

The road and other property covered by this lease shall be appraised by two suitable persons chosen by the parties respectively, who, if they cannot agree, shall choose an umpire to act upon matters of difference only, and a schedule of said appraisal shall be attached to this indenture.

IN WITNESS WHEREOF, the Boston and Lowell Railroad Corporation, by its p esident, and the Northern Railroad, by its president, the president of each of said companies being thereto duly authorized, have to this and one other instrument of even date and tenor herewith, signed their corporate names and affixed their corporate seals, the day and year first above mentioned.

[Seal] NORTHERN RAILROAD,
By A. W. SULLOWAY, *President.*

[Seal] THE BOSTON & LOWELL RAILROAD CORPORATION,
By FRANCIS L. HIGGINSON, *President.*

In the presence of
J. H. BENTON, Jr.,
ALBERT A. GLEASON.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. BOSTON, March 18, 1890. Then personally appeared Alvah W. Sulloway, President of the Northern Railroad, and acknowledged the above instrument to be the free act and deed of said Northern Railroad.

Before me,
J. H. BENTON, Jr.,
Justice of the Peace.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, ss. BOSTON, March 19, 1890. Then personally appeared Francis L. Higginson, President of the Boston and Lowell Railroad Corporation, and acknowledged the above instrument to be the free act and deed of said Boston and Lowell Railroad Corporation.

Before me,
J. H. BENTON, Jr.,
Justice of the Peace.

NORTHERN RAILROAD.

At a special meeting of the stockholders of the Northern Railroad, duly called and held at White's Opera House, in Concord, N. H., on the seventh day of December, 1889, to act upon the terms of a lease of the road and property of the corporation to the Boston and Lowell Railroad Corporation, upon terms agreed to by the directors of the two corporations, the following preamble and resolution were adopted by a stock vote of 8,660 shares, the whole number of votes cast being 9,212 shares: —

"*Whereas*, the directors of the Northern Railroad and the directors of the Boston and Lowell Railroad Corporation have agreed upon the terms of a lease to the last-named corporation of the road and property of the first-named corporation for the term of ninety-nine years from the first day of January, 1890, a copy of which lease has this day been read to the stockholders of this company present at this meeting and placed upon the records of the corporation:

"NOW, THEREFORE, the stockholders of the Northern Railroad do sanction and confirm said agreement and approve the terms of said lease, and hereby authorize the due execution and delivery thereof by the president of this corporation in the name and behalf of the corporation."

A true copy of the record.

WILLIAM L. FOSTER, *Clerk.*

BOSTON & LOWELL RAILROAD CORPORATION.

At a special meeting of the stockholders of the Boston and Lowell Railroad Corporation, held Jan. 1, 1890, the following vote was passed: —

Voted, That the stockholders hereby approve of a lease to this corporation of the railroad and certain other property of the Northern Railroad, on the terms and conditions set forth in an instrument, copy of which is hereto annexed and made part of this vote (being the foregoing lease).

The whole number of shares voted on was 36,054, all of which were in favor of the lease; the total number of shares of the capital stock being 55,294, the lease is approved by a majority of stockholders in interest.

Attest: C. E. CRAM, *Clerk.*

INDENTURE made this twenty-eighth day of February, A.D. 1890, by and between the Boston & Lowell Railroad Corporation, a corporation duly established under the laws of the Commonwealth of Massachusetts, party of the first part and hereinafter called the Lowell Railroad, and the Boston & Maine Railroad, a corporation duly established under the laws of said Commonwealth, party of the second part and hereinafter called the Maine Railroad.

WHEREAS, the said Lowell Railroad, by Indenture bearing date the thirtieth day of December, 1889, has leased of the Northern Railroad, a corporation duly established under the laws of the State of New Hampshire, its railroad and other property, as in said Indenture particularly described;

Now, THEREFORE, these presents witness as follows, to wit: —

1. The said Lowell Railroad, in consideration of the covenants of the said Maine Railroad hereinafter contained, hereby assigns, transfers and sets over unto the said Maine Railroad the aforesaid lease, the premises and property thereby demised, and all right, title and interest in or under the same;

To HAVE AND TO HOLD the said premises and property for the residue of the term of said lease.

2. The said Maine Railroad hereby accepts the said transfer, assignment and conveyance of said lease and of said demised premises and property, and covenants with the said Lowell Railroad that it will well and truly pay the rent reserved in said lease, and will perform all the covenants and stipulations in said lease contained to be performed on the part of said Lowell Railroad, and will indemnify and hold harmless the said Lowell Railroad against all losses, claims or liabilities arising on account of said lease, and at the expiration of the term of the lease of said Lowell Railroad to said Maine Railroad, will cause the said lease of said Northern Railroad to enure to the benefit of the said Lowell Railroad.

3. Nothing herein contained shall in any way release or discharge the said Lowell Railroad from its liability to said Northern Railroad upon all the covenants of said lease.

IN WITNESS WHEREOF the said parties have caused their respective corporate seals to be hereto affixed, and these presents to be executed by their respective presidents, thereunto duly authorized, the day and year hereinbefore written.

(Signed) THE BOSTON & LOWELL RAILROAD CORPORATION,
[Seal] By FRANCIS L. HIGGINSON, *President.*

BOSTON & MAINE RAILROAD,
[Seal] By FRANK JONES, *President.*

In the presence of
J. H. BENTON, JR.,
ALBERT A. GLEASON.

COMMONWEALTH OF MASSACHUSETTS.

Suffolk, ss. Boston, March 19, 1890. Then personally appeared Francis L. Higginson, President of the Boston & Lowell Railroad Corporation, and acknowledged the above instrument to be the free act and deed of said Boston & Lowell Railroad Corporation. Before me,

J. H. Benton, Jr., *Justice of the Peace.*

Indenture made this twenty-eighth day of February, A.D. 1890, by and between the Boston & Maine Railroad, a corporation duly established under the laws of the Commonwealth of Massachusetts, and the Northern Railroad, a corporation duly established under the laws of the State of New Hampshire.

Whereas, by the terms of an Indenture of lease of its railroad and other property from said Northern Railroad to the Boston & Lowell Railroad Corporation, dated Dec. 30, A.D. 1889, it is provided that said Boston & Lowell Railroad Corporation will assign and convey the leased property to the said Boston & Maine Railroad, upon certain conditions in said Indenture set forth;

Now, therefore, in compliance with said conditions, and in consideration of such transfer and conveyance herewith simultaneously made: —

1. The said Boston & Maine Railroad hereby covenants with said Northern Railroad that it will be jointly and severally liable to said Northern Railroad for the full performance of each and all of the covenants and agreements of the said Boston & Lowell Railroad Corporation in the said Indenture of lease contained.

2. The said Northern Railroad hereby accepts the foregoing covenants of said Boston & Maine Railroad as in full performance of the provisions of said lease relative to the assignment and conveyance of the leased property to the said Boston & Maine Railroad.

In witness whereof, the said parties have caused their respective corporate seals to be hereto affixed, and these presents to be executed by their respective presidents, thereunto duly authorized, the day and year hereinbefore written.

(Signed) BOSTON & MAINE RAILROAD,
[Seal] By Frank Jones, *President.*

NORTHERN RAILROAD,
[Seal By A. W. Sulloway, *President.*

LEASE

OF THE QUINCY STREET RAILWAY COMPANY

TO THE

QUINCY AND BOSTON STREET RAILWAY COMPANY.

This Indenture made this first day of May, A.D. 1889, by and between the Quincy Street Railway Company, party of the first part, and hereinafter called the lessor, and the Quincy and Boston Street Railway Company, party of the second part, and hereinafter called the lessee, each of said parties being a corporation created and established under the laws of the Commonwealth of Massachusetts, —

Witnesseth, that the said parties, by virtue of the power and authority conferred by Chapter 314 of the Acts of the Legislature of said Commonwealth, passed in the year 1889, and of every other power them hereto enabling, each for itself, its successors and assigns, and each in consideration of the covenants and agreements herein made by the other, do hereby covenant and agree, each to and with the other as follows: —

The lessor, being thereto duly empowered by the following votes of the stockholders of said Company, namely, —

Voted: That the Quincy Street Railway Company will lease their road to the Quincy and Boston Street Railway Company for the term of ninety-nine years on the following terms, namely: At a net rental to the stockholders upon the capital stock of thirty-seven thousand, five hundred dollars ($37,500), payable semi-annually, of four and one-half per cent.

All taxes of whatsoever name or nature, and expense of clerk and treasurer for maintaining organization of the Quincy Street Railway Company to be paid by the lessees, said latter sum not to exceed one hundred and twenty-five dollars ($125) in any one year.

All present contracts of the Quincy Street Railway Company to be assumed by the lessees.

Voted: That the directors of the Quincy Street Railway Company are fully authorized to lease said road in accordance with these terms to the Quincy and Boston Street Railway Company.

And the lessee being duly empowered to enter into such a contract by vote of its stockholders adopted at their annual meeting holden on the sixth day of February, A.D. 1887, in the terms following, that is to say:

Voted: That the directors be, and they are hereby authorized and empowered to acquire the property of the Quincy Street Railway Company, or to lease the same should the latter course seem more desirable, upon the best terms possible.

Now, THEREFORE, the said lessor doth demise and lease unto the lessee its railway, franchise and property of every description situated in the city of Quincy in said Commonwealth, except the lessor's shares of its own capital stock, books, and cash on hand, said property, apart from its right of way, railroad and franchise, consisting of the following articles, that is to say: —

INVENTORY. — Twenty-three and 203-204 tons of 35-pound rail, 10 and $\frac{95}{100}$ tons of 30-pound rail, 1,880 ties, 21 kegs of spikes, 150 tie rods, 3 frogs, 5 steel bars, 1 spike hammer, 9 picks, 2 wrenches, 8 lanterns, 2 rakes, 4 pails, 300 pavings, 50 fish plates, 1 bunter, 1 paving rammer, 1 spirit level, ½ dozen track brooms, 1 bit of stock, 1 bull's-eye lantern, 2 paving hammers, ½ dozen corn brooms, 9 shovels, ½ dozen bits, 2 hoes, 2 tool chests and 2 window brushes, — $2,012.98.

EQUIPMENT. — Four 14-feet box cars equipped with fare boxes, registers and stoves, 1 10-feet box car equipped with fare boxes, registers and stoves, 4 20-feet second-hand open cars equipped with registers, 1 double-end snow plough equipped with two poles, 2 sets of car wheels, poles for the above and 5 sets of double eveners and 1 single one, 3 boxes of window glass, ½ barrel of lamp chimneys, 2 sets of brake-shoes, 1½ barrels of track oil, ½ dozen car ventilator glasses, 100 feet of leather bell cord, 100 pounds of waste and ½ barrel of kerosene, — $5,872.56.

OFFICE FURNITURE. — One roll-top desk, 1 table, 1 safe, 6 directors' chairs, 1 revolving chair and 5 cane seat oak chairs.

And its location heretofore granted by the town of Quincy, being as follows, that is to say: Beginning at a point on Quincy Point Bridge, and thence running along the southerly side of Washington Street to Hancock Street; thence running along the centre of Hancock Street to the centre of School Street; thence along the centre of School Street to the northwesterly side of Franklin Street; thence along the northwesterly side of Franklin Street to the southerly side of Water Street; thence along the southerly side of Water Street to Copeland Street; thence to and along the southerly side of Copeland Street to the West Quincy Station of the Old Colony Railroad; also commencing at the point in said location on Washington Street opposite Temple Street; thence running along the westerly side of Temple Street to the location upon Hancock Street; also such rights in the following as the lessor may have commencing at the point where said street railway enters Hancock Street, crossing the same and along the northwesterly side of a way leading from Hancock Street to the Quincy Station of the Old Colony Railroad.

TO HAVE AND TO HOLD all and singular, the demised property to the lessee, its successors and assigns for and during the term of ninety-nine years from the date hereof, yielding and paying therefor rent and keeping and performing the terms, conditions and stipulations as hereinafter contained on its part to be kept and performed.

The lessee shall pay to the lessor as rent of the leased property a sum equal to four and one-half per cent. of the whole amount of the capital stock of the said Quincy Street Railway Company, viz.: Four and one-half per cent. of $37,500 in each year during said term, payable in equal semi-annual payments, on the first days of November and May, and also as rent all taxes and assessments whatsoever assessed to the lessor, or upon the leased property, or becoming payable, during said term.

The lessee shall also pay to the lessor each year during said term, a sum which is in no event to exceed the sum of one hundred and twenty-five dollars ($125) per annum for the purpose of defraying the expense of maintaining its organization, including salary of its clerk and treasurer. And the office of the lessee may be used by the lessor for transaction of whatever business may be necessary from time to time, free of charge.

The lessee shall assume and carry out all outstanding contracts of the lessor for equipment, supplies and materials, and all contracts with individuals, corporations or firms relative to the operation and management of the leased property of which notice in writing has been given to the lessee prior to the signing of this agreement; and shall assume the prosecution or defence, as the case may be, of all suits to which the lessor is a party, which may hereafter arise out of, or be in any way connected with, the current use and operation of the leased railway and property, or any of said contracts, and carry on, or adjust the same, without expense or loss to the lessor; and shall promptly pay all sums which may be recovered as damages or costs in any of such suits. The lessor agrees to have dismissed all actions at law or in equity heretofore brought by it against the lessee without expense either as damages, costs or counsel fees to said lessee.

The lessee shall use and operate said railway and property herein leased in accordance with the laws of said Commonwealth, and the orders of the legal authorities of said Quincy, and shall furnish all cars, rolling-stock, equipment and apparatus of every description required for the due operation of said railway, in addition to the property herein leased; and shall keep all of said leased property reasonably insured, and shall apply the proceeds of any insurance to restoring and replacing the property which may have been destroyed, or to making permanent improvements, not in the nature of ordinary repairs, and shall apply the proceeds of any of the rolling-stock, equipment or supplies herein leased, which it may deem desirable to sell (for which authority is hereby given) towards substitution of other property therefor, of equal value.

It shall keep said railway and the other demised property in as good condition of repair as at the inception of this lease, reasonable wear only excepted, and to the satisfaction of the legal authorities of said Quincy, at all times, and at the end of the term of this lease, or at any earlier termination thereof, from any cause whatever, shall surrender the said railway and other property herein leased, and all such property as may have been substituted therefor, including all rails and appliances introduced for the adaptation of said railway to the use of electricity or other motive power, in like good order and condition, reasonable wear only excepted.

In case any alteration of the location or position of the tracks, or of any portion thereof, of the Quincy Street Railway Company shall be ordered by legal authority, the lessee shall make such alterations within the time required at its own expense, and without loss or expense to the lessor. The lessee shall not voluntarily discontinue the use of any part of the tracks of the leased railway, but any alteration of the location or position of the tracks of the lessor authorized by the legal authorities of said Quincy, shall not be deemed such discontinuance; but the lessor reserves the right to oppose such change if considered detrimental to its interests; but nothing herein contained shall be construed to prevent the lessee from making any alteration in the tracks of the leased road necessary to operate it by electricity or other power. It shall promptly pay all fines and forfeitures which may be incurred by reason of its failure to comply with any legal requirement respecting said railway, and save the lessor harmless therefrom; also, it shall promptly pay any and all sums which may be recovered as damages and costs for any injury caused to any person or property and in any way attributable to the existence of said railway, and for which the lessor may be liable.

The lessee shall make all returns required by law, and shall furnish the lessor with such abstracts of its accounts as shall enable it to make all returns which it may be required by law to make.

The lessee may assign this lease or underlet the whole or any part of the leased property to any responsible corporation or person, but subject to all the rights of the lessor, and especially to the right to a first lien upon all of said property, and also upon the railway and rolling-stock of the lessee, as security for the performance by it of all the covenants and agreements contained in this lease; and every such assignment or sublease shall recite the fact that it is given subject to said lien.

The lessee shall hereafter conform to all requirements of law which would be binding upon the lessor in respect to the leased property, had the same not been leased.

The lessor shall maintain its existence and organization as a corporation, and to that end shall comply with all the requisites and forms of law; shall do all acts and things and execute all legal instruments necessary and proper to put and secure the lessee in the full enjoyment of all the property herein demised, and shall permit the lessee to use its name when necessary in all legal proceedings, but without loss or expense to the lessor.

The lessor agrees to cause to be served upon Wilson Tisdale for the purpose of terminating his contract with the lessor, dated Oct. 1, 1888, such notice as the lessee shall in writing request.

PROVIDED ALWAYS, and this lease is upon this CONDITION, that if the lessee or its assigns shall at any time fail to make to the lessor any of the payments herein stipulated to be made as and for rent of the demised property, including said taxes; or shall fail to keep and perform any of the other covenants and agreements in this lease contained, and such failure shall have so continued for thirty days after written notice of such failure from the lessor to the lessee, or in case the estate hereby created shall be taken from the lessee or its assigns by process of law, by proceedings in bankruptcy or insolvency, or otherwise, or in case of the appointment of a receiver to take charge of its estate, then, and in either of such cases, the lessor, or its assigns, may at once enter upon the railway hereby leased and upon any part thereof as and for the whole and expel the lessee, and those claiming under it, and determine the estate hereby granted, and shall thereupon become seized and possessed of the leased railway and every part thereof and of all the other leased property, and of all the property which may have been substituted for any of said leased property, in its original right, and as if this lease had never been made; and may expel and remove the lessee and those claiming under it, forcibly, if necessary; provided, however, that such entry for breach shall not prejudice or impair any remedies to which the lessor might otherwise be entitled for arrears of rent or other breaches of said lease.

IN TESTIMONY WHEREOF the said parties have caused their respective corporate seals to be hereto affixed, and this instrument to be executed in duplicate by their directors in accordance with the foregoing votes, the day and year first above written.

QUINCY STREET RAILWAY COMPANY,

[Seal]

By JOHN E. MERRILL,
FRANK P. WATERHOUSE,
FRED H. SMITH,
JOHN E. DRAKE,
J. PARKER HAYWARD,
HENRY E. SHELDON,
Directors of the Quincy Street Railway Company.

QUINCY AND BOSTON STREET RAILWAY COMPANY,

[Seal]

By JOHN Q. ADAMS,
ARTHUR BURNHAM,
WM. G. A. PATTEE,
WM. A. HODGES,
T. H. MCDONNELL,
H. T. WHITMAN,
W. A. BOLAND,
Directors.

INDEX TO REPORTS OF RAILROAD COMPANIES.

RAILROAD RETURNS.

Page
Attleborough Branch, 3
Berkshire, 4
Boston & Albany, 7
Boston & Lowell, 22
Boston & Maine, 27
Boston & Providence, 55
Boston, Revere Beach & Lynn, 58
Boston, Winthrop & Shore, 65
Central Massachusetts, 71
Chatham, 74
Chelsea Beach, 77
Cheshire, 79
Connecticut River, 86
Danvers, 95
Eastern, 97
Fall River, 100
Fall River, Warren & Providence (Trustees'), 103
Fitchburg, 108
Grafton & Upton, 123
Holyoke & Westfield, 128
Hoosac Tunnel & Wilmington, 131
Horn Pond Branch, 136
Lowell & Andover, 138
Martha's Vineyard (Mortgagees'), 141
Milford, Franklin & Providence, 145
Milford & Woonsocket, 148
Monadnock, 151
Monadnock (Lessees'), 153
Nantucket, 156

Page
Nantasket Beach (Trustee), 159
Nashua, Acton & Boston, 161
Nashua & Lowell, 163
Newburyport, 167
Newburyport City, 170
New Haven & Northampton, 173
New London Northern, 176
New York & Boston Inland, 183
New York & New England, 185
New York, New Haven & Hartford, 199
North Brookfield, 209
Norwich & Worcester, 212
Old Colony, 216
Pittsfield & North Adams, 230
Providence & Worcester, 232
Providence & Worcester (Lessees') 235
Providence, Webster & Springfield, 242
Rhode Island & Massachusetts, 245
Stockbridge & Pittsfield, 247
Stony Brook, 249
Union Freight, 252
Vermont & Massachusetts, 256
Ware River, 259
West Amesbury Branch, 261
West Stockbridge, 263
Worcester, Nashua & Rochester, 265
Worcester & Shrewsbury, 269
Housatonic, of Connecticut, 273

Cape Cod Ship Canal Company, 278

STREET RAILWAY RETURNS.

Page
Albany Street Freight, ... 282
Attleborough, North Attleborough & Wrentham, ... 285
Brockton, ... 290
Beverly & Danvers, ... 295
Boston & Chelsea, ... 299
Boston & Revere Electric, . . . 301
Black Rocks & Salisbury Beach, . 306
East Middlesex, ... 310
East Side, ... 315
East Wareham, Onset Bay & Point Independence, ... 320
Essex Electric, ... 324
Fitchburg, ... 327
Framingham Union, ... 332
Globe, ... 336
Gloucester, ... 341
Haverhill & Groveland, ... 345
Holyoke, ... 349
Hoosac Valley, ... 354
Lowell, ... 359
Lowell & Dracut, ... 364
Lynn Belt, ... 369
Lynn & Boston, ... 374
Manet, ... 380

Page
Malden & Melrose, ... 384
Marlborough, ... 386
Merrimack Valley, ... 390
Milford & Hopedale, ... 394
Naumkeag, ... 396
Nantucket Beach, ... 402
Nantucket Electric, ... 404
Natick & Cochituate, ... 405
Newton, ... 409
Newburyport & Amesbury, . . 414
Northampton, ... 419
North Woburn, ... 423
Onset, ... 427
Pittsfield, ... 431
Plum Island, ... 435
Plymouth & Kingston, . . . 437
Quincy, ... 441
Quincy & Boston, ... 444
Somerville, ... 449
Springfield, ... 451
Taunton, ... 456
Union, ... 460
West End, ... 466
Winnisimmet, ... 477
Worcester Consolidated, . . . 480

LEASES.

Lease of the Providence & Worcester Railroad to the New York, Providence & Boston Railroad Company, ... 487
Lease of the Northern Railroad to the Boston & Lowell Railroad Company, . . 493
Assignment of the lease of the Northern Railroad from the Boston & Lowell to the Boston & Maine Railroad, ... 498
Lease of the Quincy Street Railway to the Quincy & Boston Street Railway Company, ... 499

4679 070

ACME
BOOKBINDING CO., INC.

APR 28 1991

100 CAMBRIDGE STREET
CHARLESTOWN, MASS